

# NORTHROP NEWS

VENTURA

VOLUME 29-30

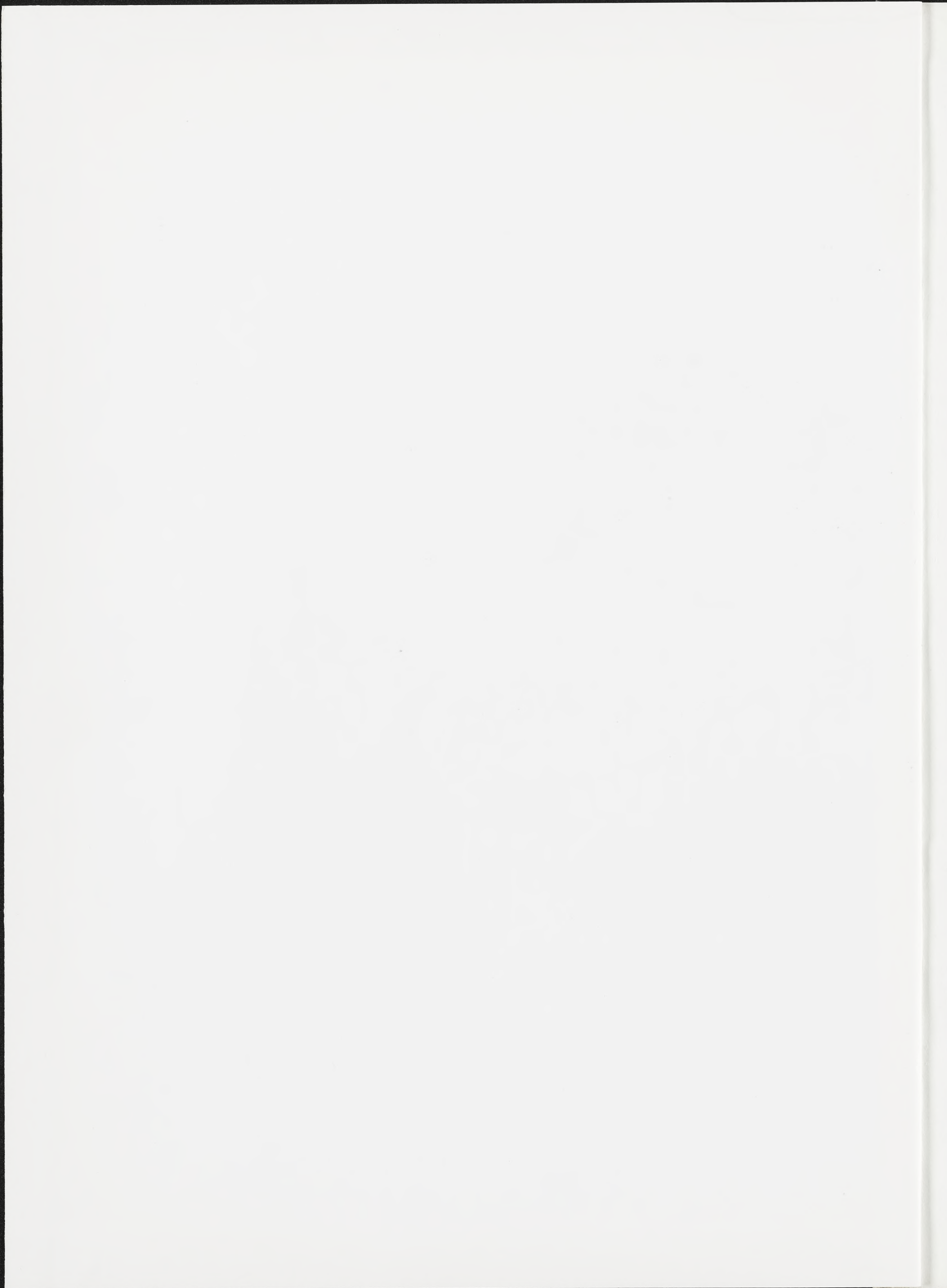






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# NORTHROP NEWS

VENTURA DIVISION EDITION

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BRIEFING ADMIRAL ON MK 30

Larry Kirsch, left, Adm. Shear, Orv Kyler, Welko Gasich with Mk 30.

## Admiral Shear Inspects Mark 30 Target Facilities

U.S. Navy Vice-Admiral H. E. Shear, director of Anti-Submarine Warfare for the Chief of Naval Operations in Washington, D. C., recently visited the Ventura Division to inspect the Mark 30 underwater target and production facilities.

Admiral Shear toured the Mk 30 production area after briefings by key Northrop personnel including General Manager Welko E. Gasich and Corporate Senior Vice President George Douglas.

He examined the three Mk 30's ready for shipment to Keyport, Wash., and watched several demonstrations of the target and its subsystems performed by Ventura members of the Mk 30 team.

The demonstrations included in-water performance, turn around time, critical parts interchange, product improvements

and production capability.

Supplementing the hardware demonstrations were charts and graphic displays.

## ADVANCED VERSION OF MQM-74A DRONE EXCEEDS SPEED GOALS

A new version of the MQM-74A, known as the MQM-74B, has been successfully flown by U.S. Navy personnel at the Naval Missile Center, Point Mugu.

The Ventura Division-developed MQM-74B features the basic MQM-74A with a longer body, larger wings and a higher thrust jet engine. The new bird flew 44 minutes and was recovered by helicopter.

The target exceeded its speed goal of 475 knots and reached altitudes far exceeding the original 20,000-foot requirement.

Under development since April, the new target is being evaluated by the Navy for possible inclusion into Navy inventory for target training of anti-aircraft gunnery and missile crews.

Additions on the MQM-74B include a 10-inch extension in the fuel tank and an increased wing area from six to eight square feet to accommodate the modified Williams Research-built engine which provides a minimum of 170 pounds of thrust.

These changes and other tech-

## Venturans' Efforts on Apollo 15 Commended

A telegram congratulating all Ventura Division personnel for their contributions to the highly successful Apollo 15 mission was received earlier this week by General Manager Welko E. Gasich.

"Apollo 15 is history and we, as a company and individuals, take great pride in the near-perfect accomplishments of our Apollo hardware and systems during the flight of Apollo 15," wrote G. W. Jeffs, vice president and program manager for Command and Service Modules at North American Rockwell's Downey Division.

"This was the first of the 'J' (scientific) mission explorations in space. We have two more to go—Apollo 16 and 17. We feel that these remaining flights must be even better than Apollo 15. Again our congratulations and thanks."

Millions watched the landing on television around the world as

Astronauts David Scott, James Irwin and Alfred Worden returned from what many have termed the most scientifically significant moon mission to date.

A successful landing was accomplished on two of the three main parachutes in the Apollo Earth Landing System. This caused the astronauts to impact on the ocean's surface at about

(See APOLLO, page 6)

## NRC Picnic Set For Star C Ranch

"Something for everybody" could well be the theme for this year's Ventura Division Recreation Club picnic scheduled for 11 a.m. to 5:30 p.m. on Sunday, Sept. 12 at the Calamigos Star C Ranch in the Malibu Mountains.

The fully-equipped ranch has areas for sports, swimming, picnics, a western museum, fishing lake (bring your own tackle) and barnyard with farm animals. There will be plenty of rides and novelty games for all ages.

The luncheon will include barbecue beef and ham with all the trimmings. A special feature, the Bob Baker Marionette Show, has proven popular with adults and

(See PICNIC, page 6)

## A Gold Watch for Silvio



WHEN MACHINIST Silvio Di Pasquale retired after more than 14 years at the Ventura Division his co-workers in the Machine Shop presented him with a handsome gold watch at his farewell party.

## FINCH HONORED

The son of a Ventura artist has been named to the Dean's List for outstanding academic achievement at San Fernando Valley State College.

Michael D. Finch, son of Doug Finch, achieved a near straight-A average to attain the coveted listing. He is a junior. Young Finch is a 1968 graduate of Thousand Oaks High School.



## Hawaii Seeks Equipment To Test Autos

Northrop's Electro-Mechanical Division has received a contract from the State of Hawaii to provide equipment for a state operated vehicle emission test center in Honolulu.

The equipment provided under the \$31,000 contract will be used to set up a test system similar to the Northrop-Olson Auto Emission Test Center in Anaheim.

The center will be a research and evaluation operation for future implementing of Federal emission standards. It will test exhaust gas samples for hydrocarbon and carbon monoxide content. In addition, the center will have a growth capability for adding oxide of nitrogen tests later.

The contract should be completed by late November. It is being administered by the Electro-Mechanical Division's Environmental Systems group with Noble Bishop as project engineer.

### HOLIDAY NEAR

Another three-day holiday is coming up for Northrop personnel when company facilities suspend operations Monday, Sept. 6, in observance of Labor Day.

Regular shifts will resume Tuesday, Sept. 7.



**NOW BURNING CLEAN NATURAL GAS**  
Mike Di Curcio fills tanks as Bill Steen applies sticker.

### BURN CLEAN NATURAL GAS

## Company Vehicles Aid Pollution Cause

Northrop has taken still another step in its continuing fight against air pollution in the Southland by adapting 10 Aircraft Division vehicles to burn natural gas as a fuel.

Natural gas contains no lead, burns cleanly and greatly reduces emission of carbon monoxide, hydrocarbons, oxides of nitrogen and particulate matter in exhausts.

The 10 vehicles include vans, panel wagons and pickups which normally operate between Northrop facilities in the Southland, plus some Plant Protection units.

Each is equipped with a Dual Fuel System unit which enables

them to be operated on either natural gas or gasoline. Natural gas storage tanks, refilled from in-plant facilities, carry the vehicles about 100 miles, an average day's driving for each. Each system is comprised of the tanks, regulators to reduce fuel pressure, a gas/air mixer with air filter and a dashboard selector to switch from one type fuel to the other.

In addition to their anti-pollution capabilities, the 10 vehicles cost less to operate on a day-to-day basis.

For example, gasoline costs about 24.1 cents per gallon, while

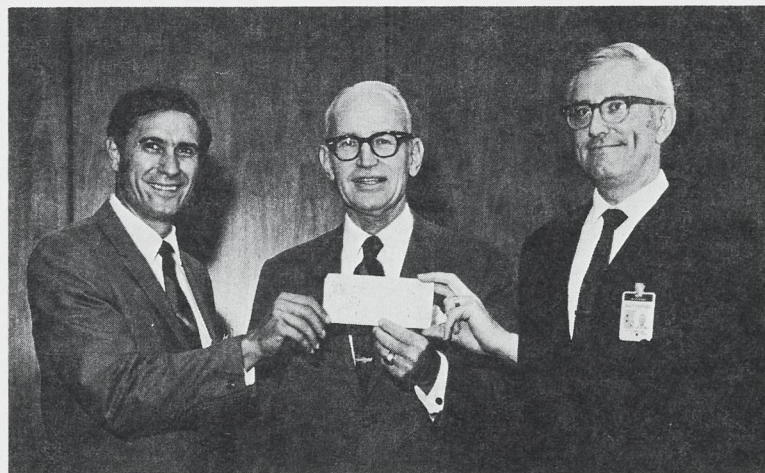
an equivalent amount of natural gas sells for six cents. Oil changes are required at 6,000-mile intervals and spark plug changes at 14,000 miles with gasoline, while with natural gas the change interval is 30,000 and 40,000 miles, respectively. Increased engine life, reduced fuel inventories and tax advantages also add to lower costs.

Over the past five years the division has converted its in-plant vehicles, exclusive of battery-powered units, to burn propane in another move to control air pollution whenever possible.

### UNUSUAL GIFT FOR A FOUNDER



MR. AND MRS. JOHN K. NORTHROP were guests of Aircraft Division Management Club recently for Founder's Night. During the evening, Mary Superata, right, presented them with unusual hanging tapestry made of nylon yarn and featuring Flying Wing motif. With them are Dick Greetan, left, club president, and Jake Superata who worked with Mr. Northrop during early days of company.



**HONORED BY NASA FOR CONTRIBUTIONS**  
Joe Bogdanovic, left, and Walt Keller with W. E. Woolwine, center.

### BOGDANOVIC, KELLER HONORED BY NASA

Joe Bogdanovic and Walt Keller, Aircraft Division senior technical specialists, have been commended by NASA for contributions in the field of new technology innovations.

Each received a letter of thanks and a \$25 check.

During the course of work on a NASA contract held by Northrop, the pair developed a new

type liquid flowmeter capable of economically and accurately measuring extremely low flow rates of corrosive fluids. NASA considered the invention important enough to include it in its "Technical Briefs."

Subsequently, a NASA Inventions and Contributions Board reviewed the device and authorized the awards and letters.



## Reentry Arc Length Fuze Hardware Is Completed

Electronics Division has successfully completed the hardware portion of the Reentry Arc Length Fuze (RALF) program, according to Herb Stark, program manager.

The \$2.7 million Air Force Space and Missile Systems Organization contract called for the design and fabrication of five RALF units over a 26-month period.

RALF is a miniaturized digital

computer and sensing device. It is designed for use aboard a number of reentry vehicles.

Mr. Stark stated that the division is presently working on the program under a three-month extension of its original contract, during which time it will provide flight test support for RALF units launched from Vandenberg AFB.

Division personnel working on the RALF program are Tom Pryor, Francis Van Slyke, Paul Bockemohle, Vince DeMartino, Jitsuo Yamamoto, Ron Johnson, Ron Roy, Dick Miller, Don Anderson, Leo Boyd, John Williamson and Bill Hale.

## CASTLE TOUR

An NRC Travel Club tour to Hearst Castle, San Simeon, will depart Hawthorne at 9 a.m., Oct. 2, returning the afternoon of Oct. 3.

The \$24.50 package cost includes round trip bus transportation, double occupancy room at the Golden Tee and a choice of two tours at Hearst Castle. Meals are not included.

Personnel Activities outlets are accepting reservations which must be paid for by Sept. 22.

## BAR CHOICE

Greg P. Steffire of Spares Control, Aircraft Division, has been accepted for membership and practice by the California State Bar Association. Mr. Steffire was sworn in on June 29. He received his law degree from Southwestern College.

## NORTHROP NIGHT DUCATS ON SALE

Tickets for an exclusive Northrop Night at Magic Mountain are now available, at \$4 each, through Northrop ticket outlets at all facilities.

The price includes parking, admission to the new fun center and unlimited use of rides and attractions between 7 p.m. and 1 a.m. Saturday, Sept. 25. Top name entertainment will be presented at the Showcase Theater and is included in the package price.

No tickets will be sold at the gate on Northrop Night.



**HARDWARE DELIVERY COMPLETED**  
Secretary Sheila Bondi displays a RALF device.

## Seamanship, Boating Safety Class Slated by Coast Guard Auxiliary

Flotilla 59, United States Coast Guard Auxiliary, has extended an invitation to Northrop personnel to take part in a 12-week Basic Seamanship and Boating Safety class to be held at Leuzinger High School.

The Aircraft Division's Wayne Moles is Flotilla 59 operations officer. He says the class will begin at 6:45 p.m. Sept. 13 and will meet at the same time each Monday. No advanced registration is required.

Flotilla 59 meets the fourth Thursday of each month at NRC

Clubhouse, Hawthorne, and is open to Northrop personnel.

## HAWAIIAN TOUR

A kickoff meeting for the annual NRC yearend holiday tour to Hawaii is set for 8 p.m. Aug. 27 at the Alondra Club, Lawndale.

Full information on tour activities, entertainment and refreshments will be served.

Brochures describing the year-end tour will be available. Those who like may dine at the Alondra Club prior to the meeting.

## Wind Tunnel Tests Verify Design and Performance Characteristics of F-5E

A scale model of Northrop's new F-5E International Fighter aircraft has successfully completed a highly detailed series of transonic and supersonic wind tunnel tests to verify its design and performance characteristics.

During the tests at the Air

Force Systems Command's Arnold Engineering Center, the F-5E model was examined in its "clean" configuration with Side-winder missiles on the wingtips as well as externally-mounted bombs and fuel tanks.

In the latest version of the

Northrop F-5 aircraft, the F-5E's wing area has been increased, the inlet and duct area has been enlarged and the fuselage lengthened.

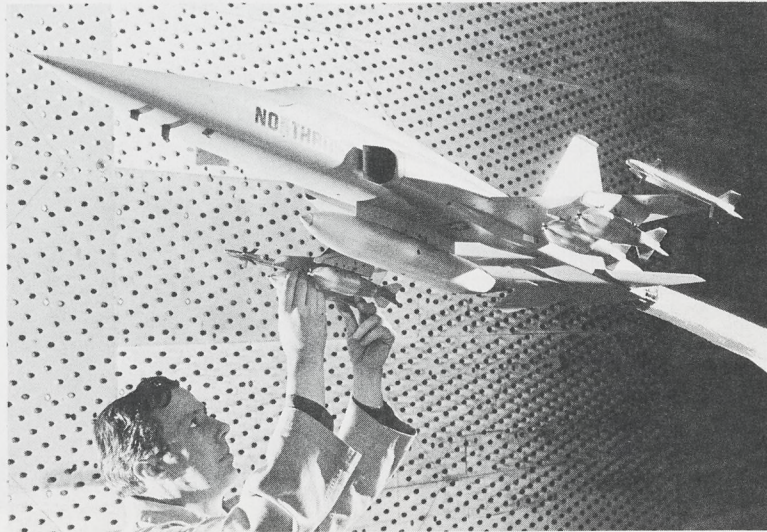
The test program, which was verified by personnel of ARO, Inc., operating contractor of the

center, was completed ahead of schedule.

The F5-E, an advanced version of Northrop's F-5, will be made available to allied countries under the U.S. military assistance program with initial deliveries to Southeast Asian nations.



PREPARING FOR F-5E WIND TUNNEL TESTS



TECHNICIAN ADDS SCALE MODEL EXTERNAL ITEMS



## At 17 Michael Woody Is Bronc Riding Champion

Michael Woody, son of an Aircraft Division development mechanic in Advanced Production, is a teenage rodeo champion in the state of Oregon.

Michael has won first place in the 10-17 age bracket of bareback bronco riding at the Basin Rodeo in Klamath Falls, Ore., for two years in a row.

Born and raised in Gardena, he is a true Northrop son. His mother, Eve, also worked at Northrop

when he was born 17 years ago.

Young Michael enjoyed the usual childhood, his father explained. He was active in Boy Scouts, Little League, and wrestled and swam competitively. "But his main love, though, has always been horses," he said.

Two years ago, on a visit to his sister's home in Klamath Falls, he liked the area so well he decided to stay.

Horses and rodeo are his way of life now. He lives with another sister and her husband in Montana where he is president of the Riding Club at Columbia Falls High School. He'll be a junior there this fall.

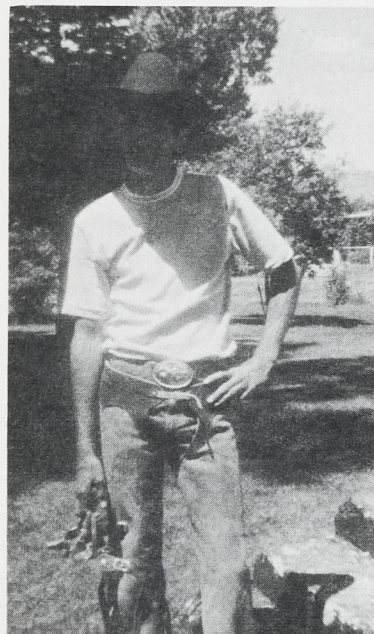
"His sights are set on being a national champion and riding at the Cow Palace in San Francisco and the Calgary Stampede in Canada," says his father.

A onetime rodeo contestant himself, his father is looking forward to the day when he can move north and get on the rodeo circuit with his son.

### MCCOY NAMED

Vice President John L. McCoy has replaced Vice President M. G. Gonzalez as chairman of the Aircraft Division's General Safety Committee which acts for the general manager in matters involving environmental health and safety.

In urging support of Mr. McCoy in his new duties, General Manager F. W. Lloyd praised the efforts of Mr. Gonzalez and the General Safety Committee over the past year.



**TEENAGE CHAMP**  
Michael Woody ready to ride.

## Like Cinderella, Tomato Worm Has Beautiful Future

A tomato worm is a horror to gardeners, but a joy to Jon McFadden, Electro-Mechanical Division automobile mechanic.

He collects them and then grows the worms through the pupae stage until they shed their cocoons and turn into large, beautiful Sphinx moths. These he mounts and adds to his collection of butterflies and moths.

He began collecting and mounting butterflies when he was a child and then later added moths to the collection.

He prefers to grow his own moths from larvae and worms because these moths fly at night and are difficult to catch.

"You often see them flying around lamp posts, but they are too high to catch easily," he said. "Also, if you grow your own, they are not as beat up as the wild ones."



**OH YOU BEAUTIFUL WORM**  
Jon McFadden admires tomato worm he is growing.



**MINOR LEAGUE CHAMPIONS**  
Coach Norm Henry with members of the Goldswingers.

## Norm Henry Family Finds Relaxation In Bobby Sox Softball Loop Activities

Bobby Sox softball nearly became a way of life these past few months for the family of Norm Henry, chief of Quality Assurance in the Navigation Department, Electronics Division.

Mr. Henry served as head coach of the Goldswingers team in the minor league division of the Southwest Garden Grove Bobby Sox League; his wife, Bobbie, worked the concession stand during the games; and three of their daughters were players.

Two of the girls played ball on their father's team: Suzie, 9, and Cindy, 11, who led the team in the hitting department with a .603 batting average. The third daughter, Brenda, 12, played for a major league team.

"It's been a very rewarding

season for the whole family," said Mr. Henry, who also was named to coach the league's all-star team in regional competition. "The Bobby Sox organization is one of the few outlets where a father can participate in organized sports with the female members of his family."

## Kathy Riley, 13, Wins State Pole Bending Honors

Kathy Riley, 13-year-old daughter of Jerry Riley, Electro-Mechanical, is the new 1971 State Pole Bending champion.

Pole bending is a horse race over a track 100 yards long where the rider weaves around poles set in the ground.

Kathy and her horse, Rebel, made the double run from a standing start in the remarkable time of 9.60 seconds.

The contest, sponsored by Equestrian Trails group, is open, and Kathy competed against entrants who ranged from teenagers to men and women.

She received a huge trophy to add to the more than one hundred, she, her sister Barbara, her father and mother have won for their riding exploits.

Rebel, the horse, also received recognition for his part in the championship ride. He won a specially inscribed horse blanket.

Classified advertisements for the next issue of Northrop News, to be distributed Sept. 15, may be submitted between Monday, Aug. 30, and noon on Wednesday, Sept. 8.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- Station Wagon**, 1965 Chevelle, 6-cyl., \$400. 213-326-7528.
- Mustang**, 1970, V-8, 302 h.p., std. trans., d./brakes, \$2,200. 213-671-2889.
- Sunbeam**, 1967 Alpine convt., 4-spd. trans., r/h, \$1,000. 213-329-3593.
- T-Bird**, 1967, d./brakes, radio, p/s, a/c, \$1,400. 213-756-3401.
- Pontiac**, 1966, GTO built 389 4-spd., \$1,300. 213-675-1336.
- Ford**, 1961, a/c, \$200. Box 1501.
- Mustang**, 1966 2+2 Fastback, \$1,050. Box 1502.
- Volkswagen**, 1964, \$650. 213-865-5131.
- Station Wagon**, 1969 Opel Kadette, auto. trans., \$1,400. 213-670-9258.
- Volkswagen**, 1968, sunroof, \$1,300. 213-282-0500.
- Ford**, 1957, 4-dr., new parts, shop manuals, \$60. 213-377-4604.
- Imperial**, 1968, full pwr., a/c, \$2,300. 714-828-9243.
- GTO**, 1965 h/top coupe, new tires, \$700. 213-831-5407.
- Datsun**, 1966 1600 roadster, lug. rack, h/top, \$950. 213-542-4927.
- T-Bird**, 1961, new trans., a/c, p/s, p/b, FM stereo tape, \$700 or \$650 w/out tape. 714-826-9931.
- Dodge** 440, 1968, a/c, auto. trans., \$1,650. 213-644-2781.
- Fiat**, 1969 convt., h/top, mag whls., \$1,500. 213-830-5284.
- Volkswagen**, 1966, \$750. 714-778-5823.
- Chevrolet**, 1965, 2-dr., S.S. h/top, a/c, p/s, p/b, \$800. Box 1503.
- Station Wagon**, 1961 Falcon, stick shift, rebilt. eng., \$275. 714-527-7060.
- Corvair**, 1960, needs eng. work, \$50. 213-679-3889.
- Chevrolet**, 1958 Impala 2-dr., r/h, p/b, p/s, 348 cu. in., \$250. 213-324-9087.
- Chevrolet**, 1963 Super Sport, p/s, p/b, \$500. 213-754-3665.
- Valiant**, 1960, auto. trans., \$175. 213-723-4417.
- Volkswagen**, 1970, radio, \$1,600. 213-346-4018.
- Datsun**, 1964, 4-dr., r/h, \$500. 213-678-9818, 213-671-0351.
- Chevelle**, 1970 Sup. Spt. convt., 350 h.p., a/c, p/b, p/s, \$2,950. 213-670-2098.
- Porsche**, 1965 SC, near new eng., \$3,200. 213-675-1911.
- Dune Buggy**, & trailer, Ford powered, \$500. 213-534-3410.
- Volkswagen**, 1970, sunroof, \$1,600. 213-374-0258.
- Buick**, 1965 Riviera, full power, a/c, \$1,075. 213-425-0581.
- Pickup**, Chevrolet, 1/2-ton, 283 V-8, auto. trans., cab-hi camper, \$995. 714-776-1023.
- Mustang**, 1965, 3-spd. trans., \$895. 213-423-5690.
- Volkswagen**, 1965, \$600. 714-524-3591.
- Honda** 600, 1971, still under warranty, \$1,250. 213-675-3139.
- Chevrolet**, 1966 Caprice, a/c, 2-dr., r/h, p/s, V-8 eng., \$1,150. 213-428-1129, 213-428-2067.

## Miscellaneous For Sale

- Sailboat**, 26' o.l., 8'3" beam, f/glass, radio telephone, 5 h.p. outbd. eng., dacron sail, jib & genoa, sleeps 4, \$4,000. 714-772-4103.
- Tape Recorder**, Concord transistorized stereo-phonetic, 4-track Mod 550, 3-spd. w/instant stop, sep. vol. controls & VU meters, many extras, \$95. 213-679-2864.
- Condominium**, 1,400 sq. ft., 2-bdrm., den, 2 baths, dps., cpts., all elec. security sys., rec. rm., \$30,500. 213-674-1400.
- Pups**, miniature dachshund, 2 black males, 3 mos. old, AKC, \$75. 213-377-2637.
- Air Conditioning Unit**, Sears, for auto, all access., \$100. 213-757-7417.
- Couch**, turquoise, matching chair, \$50. 213-820-4134.
- Pup**, AKC, poodle, 5 mos. old, housebroken, \$35. 213-866-4104.
- Refrigerator**, crosstop freezer, \$35. 714-846-2378.
- Cartop Carrier**, 4' x 7' x 18" deep, fully enc. & waterproof w/lock, \$20. 213-375-4574.
- Deer Rifle**, 30-30 Marlin, carrying strap & ammo, fired 10 times, \$65. 213-676-3365.

## Miscellaneous For Sale

- Boat**, 14' Crestliner, 45 h.p., outbd. Chrysler, elec. start, remote controls, trailer, \$900. 213-320-5201.
- Receiver**, Kenwood TK-140, 150 w, \$200. 714-893-7745.
- Wedding Rings**, yellow gold o/lap design, 7 diamonds, \$300. 213-569-6543.
- Door Exteriors**, 3, w/windows, wood frame, 6, & screens, 2, \$20. 213-324-7059.
- Typewriter**, Royal Standard upright, \$20. 213-324-7259.
- Shotgun**, Winchester mod. 1400, 12 ga., auto., 30" full choke, \$105. 212-860-2305.
- Phonograph**, Capital high fidelity, 4 spkrs., \$50. 213-831-4087.
- TV**, b/w, Zenith, 23" console, \$25. 213-326-0124.
- Piano**, Baldwin Acrosonic spinet & bench, mahogany, \$475. 213-894-1381.
- Sheepskin**, acrylic, white, washable, 24"x30", pad for bedridden person, \$3.50. 213-675-2005.
- Piano**, Gulbransen small studio-type, 46" long, 56" high, \$400. 213-641-6568.
- Camping Equipment**, Coleman, \$125. 213-398-5179.
- Guitar**, elec., tune-a-matic bridge, hollow body, \$70. 213-377-2570.
- Mobile Home**, 10x55, 7x22 expando, awnings, skirts, carport, tool shed, 6 yrs. old, \$4,500. 213-378-0501.
- Barbells**, weighing 80 lbs., \$10. 213-376-1356.
- Crypt**, dble., Capistrano Gardens, Inglewood Park Cemetery, \$1,050. 213-675-5574.
- Table**, maple, square, w/louvered doors, \$30. 213-325-3865.
- Surfboard**, 7' Rick, diamond tail, \$55. 213-374-8608.
- Cabin**, dble. gar. & mobile home, furn. or unfurn., \$18,000. 213-424-7351.
- Bed**, dble., springs & mattress, h/board, night stands, dresser w/mirror, chest of drws., \$65. 213-675-2514.
- House**, No. Inglewood, 3-bdrm., patio, lge. fenced yd., \$26,500. 213-645-4163.
- Stenotype Machine**, LaSalle, books & tapes incl., \$50. 213-374-6003.
- TV**, Zenith 21" b/w, birch console, dual spkrs., \$40. 213-671-6692.
- Wetsuit**, skin diver's type, small, \$10. 213-833-4191.
- Tires**, 8.25x14, 4-ply Mohawk, \$38. 213-324-8618.
- Trailer**, 1964, 18' Kenskill, self-contained, \$1,850. 213-675-6020.
- Motorcycle**, Honda, 1963 300 Dream, 305 cc, \$290. 213-679-7584.
- Tape Recorder**, stereo solid state Sony 560-D, lid spkrs., all access., \$150. 213-377-7940.
- Hardtop**, for Corvette, '63-'67, \$175. 213-631-3008.
- Porta-Crib**, w/pad, \$20. 213-326-8455.
- Refrigerator**, \$30. 213-534-1094.
- Cabin Cruiser**, 16' Harcraft, 4-whl. tandem tilt trailer, bait tank, 30 h.p. Evinrude, \$950. 213-323-7177.
- Crib**, w/mattress, \$20. 213-377-5003.
- Boat**, 16', 40 h.p. Mercury outbd. w/elec. starter, bait tank, trailer, \$600. 213-374-0118.
- Crib**, Baby Line, drop sides, mattress, \$40. 213-530-0545.
- Slide Projector**, Argus 500 Electromatic, 35 mm, 100 Airequip magazines, 3 carrying cases, \$100. 213-541-2710.
- Washing Machine**, \$25. 213-676-1856.
- Tent Trailer**, small, \$325. 213-322-3249.
- Stroller**, \$10. 213-328-0450.
- Pups**, miniature schnauzer, AKC, 7 wks. old, \$125. 213-372-7875.
- Lamp**, lge. Perko, kerosene, \$15. 213-645-3690.
- Bicycle**, child's 10", & infant seat for adult bike, \$15. 213-645-7972.
- Punch Bowl**, & glasses, \$5. 213-376-4831.
- Poodles**, tiny tot, AKC reg. 2 apricot males, 1 yr. old, \$100 ea. 714-546-6714.
- Six-Pack**, Mopar, set up for 383-440, complete, \$100. 213-675-4764.
- Motorcycle**, 1970 Honda mini 50, \$150. 213-374-6793.
- Bureau**, w/mirror, 6 drws., light wood, \$15. 213-675-9659.
- Motorcycle**, 1971 SL 175 Honda, \$550. 213-835-6585.
- Bedroom Set**, orthopedic mattress, \$45. 213-323-0985.
- Freezer**, 16 cu. ft. General Electric No-Frost, 7 mos. old, harvest gold, \$275. 213-372-7860.
- Airplane**, 1/4 share, 1953 4-place Piper Tri Pacer, based at Hawthorne Airport, \$850. 714-968-1776.
- Dining Room Set**, pedestal table, w/2 exts., 4 cane back chairs, china breakfront, fruitwood inlaid w/beryl, \$375. 714-836-0994.

## Miscellaneous For Sale

- Washer**, Whirlpool w/dryer, gas, white, \$150. 213-532-2896.
- Motorcycle**, BSA 441 Victor, o/hailed, \$500. 805-498-2867.
- Drafting Table**, Mayline, 6'x3 1/2', oak, \$75. 213-670-5035.
- House**, 2-bdrm., new roof & paint, cpts., dps., lge. yd., assume FHA low int. loan, small dn., will take 2nd for bal., \$21,950. 213-327-6373.
- Washer**, Maytag, & dryer, Sears, elec., \$100. 213-327-2353.
- Shotgun**, 12 ga., Remington auto., shot twice, \$135. 213-644-7941.
- Signal Generator**, mod. 315 Eico, \$15. 213-675-2329.
- TV Stand**, portable, 12" base, 19" max. width, \$150. 213-674-5427.
- Racing Bicycle**, men's Legi, 10-spd., \$150. 213-641-0686.
- Swimming Pool**, 12'x3' Doughboy, w/access., used 1 season, \$50. 213-325-8175.
- Tent Trailer**, Apache, Buffalo mod., sleeps 5 or 6, dinette, stove, water, other access., \$700. 213-679-4863.
- Chalet**, Club San Moritz, Crestline, 1,400 sq. ft. on 2 levels, furn., approx. 100' x 100' lot w/80' concrete d/way, sleeps 11, \$34,750. Box 1504.
- Lot**, 75x135, 29 Palms, \$1,000. 213-679-2114.
- Motorcycle**, 1967 CL160 Honda Scrambler, \$210. 213-329-2842.
- Archery Set**, 50# bow & quiver, other access., \$30. 213-327-4585.
- Motorcycle**, 1969 Kawasaki 120TR, \$300. 213-372-3827.
- Refrigerator**, 11.5 cu. ft., G.E., \$75. 213-379-4517.
- Push Mower**, Sears, w/grass catcher, \$10. 213-635-7942.
- Console**, walnut Danish, AM-FM radio & stereo, turntable, Silverstone, \$75. 213-323-4729.
- Skis**, & buckle boots, size 9, used 1 season, \$50. 714-846-4598.
- Tire**, 7:35-14, never used, 4-ply nylon, Sears Hiway Special, \$8. 213-378-3529.
- Guitar**, folk-type, \$30. 213-377-6648.
- Bicycle**, Miss GTO, \$15. 714-832-7014.
- Sectional**, 3-pc., 3 yrs. old, \$350. 213-376-2190.
- Motorcycle**, 1970 CB-175 Honda, \$325. 213-377-4481.
- Ski Boat**, 15' Chrysler Mustang, 85 h.p. Evinrude outbd. motor, \$1,900. 213-670-4702.
- Cemetery Lot**, Inglewood Memorial Pk., Pine View sec., dble. interment, \$700. 213-326-8429.
- Bicycle**, Peugeot, folding-type, 2-spd., many access., \$65. 213-375-5760.
- Motorcycle**, 1971 Yamaha, 175 cc, still under warranty, \$550. 714-521-0073.
- Exercise Bicycle**, manual, \$5. 714-830-3048.
- Motorcycle**, Honda, 150 cc, elec. start, \$175. 213-328-6662.
- Motorcycle**, 1968 Greeves Challenger, 250 cc, extras, \$475. 213-532-7175.
- Bedroom Set**, antique green, incl. triple dresser w/mirror, 2 night stands, wicker chair, \$200. 213-371-7318.
- Sofa**, green tweed, \$40. 213-534-2951.
- Tent Trailer**, 1970 Puma, water, elec. hookup, bltins, many extras, sleeps 6, \$1,195. 714-847-5439.

## Wanted to Buy

- Mini Bike** or small Honda. 213-327-4356.
- Bicycle**, tandem. 213-371-8879.
- VW Camper Tent**. 213-322-3823.
- Violin**, full size for intermediate student. 213-374-2188.
- Stereo Receiver**. 213-679-7378.
- Outdoor Motor**, 5-10 h.p. w/fwd-neutral-rev., approx. \$100. 805-497-2823.
- Tickets**, 2, to the Pageant of the Masters. 213-679-6982.

## For Trade

- Dryer**, Norge Delux, gas, 1 yr. old, bronze, trade for comparable elec. dryer. 213-677-6233.

## Free (To Be Given Away)

- Sheep Dog**, Australian, 2 yrs. old, b/w, male, needs lge. yd. 213-675-2677.
- Pup**, weimaraner, male, gray, AKC reg., 18 mos. old. 213-320-6685.
- Pups**, toy fox terrier. 213-374-5133.
- Pups**, born June 11, brown & black ones. 213-541-1423.
- Kittens**, 3, red. 714-524-1376.

## Rentals Offered

- Home**, Lake Arrowhead, 3-bdrm., 2 baths, bch. club privileges, \$140 wk., \$60 w/end. 213-377-3817.

## Rentals Offered

- Apt**, 2-bdrm., unfurn., gar., refrig., stove, cpts., dps., \$135 mo. 213-323-0546.
- Cabins**, Lake Gregory & Crestline, reserve early, sleeps 6, \$65 wk. 213-821-8150.
- Cabin**, Green Valley Lake, \$65 wk. 213-320-2002.
- House**, Bass Lake, \$150 wk., \$45 w/end. 213-374-3702.
- Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/ place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.
- Condominium**, Palm Springs area, 2-bdrm., 1 bath, studio apt., air cond., well furn., pool, \$60 w/end, 3 days, \$100 wk. 213-327-8994, 213-324-5709. G
- House**, 4-bdrm., family rm., P. V. Pen., fenced front & back yds., lease, \$395 mo. 213-377-8069.
- Cottage**, Ocean Bch., San Diego, near Mission Bay, \$75 wk. 714-826-2007.
- Cabin**, Lake Arrowhead, north shore, pvt. dock, \$120 1 wk., \$200 2 wks. 213-375-2255.

## Rentals Wanted

- Cabin**, Idyllwild area, 5 days to a wk., for family of 5. 213-325-2952.

## Child Care

- Babysitting**, part time, my home, Inglewood area, days preferred. 213-671-1652.

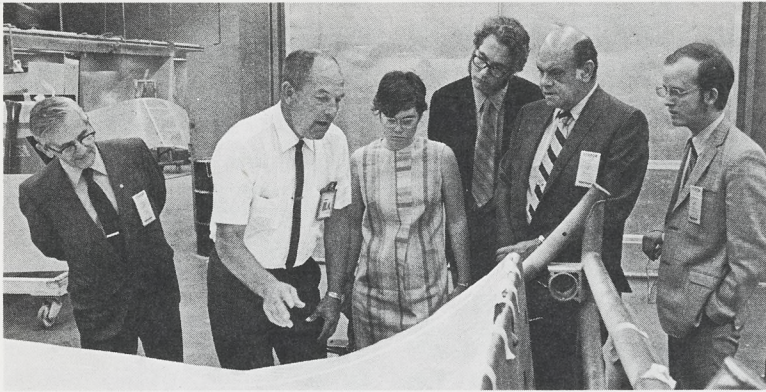
## Personals

- Ride Wanted**, 7 a.m.-3:42 p.m., Magnolia & Wardlow, Long Beach, Aircraft ext. 4219, 213-424-4891.
- Ride Wanted**, 7 a.m.-3:42 p.m., Imperial Hwy. & Doty Ave. or Prairie Ave. & 112 St., Inglewood, Aircraft ext. 4716, 213-677-6307.
- Ride Wanted**, 8 a.m.-4:45 p.m., vicinity of Balboa & Rinaldi, Granada Hills, Aircraft ext. 1708, 213-360-8800.
- Need ride home**, 4:45 p.m., Mon.-Thurs., to Magnolia on Orangethorpe, will help pay for gas. Electro-Mech. ext. 1106, 714-870-9658.
- Thanks to all my friends at Northrop for the luncheon, gifts & party upon my retirement.** CHARLIE HUTCHESON.
- Mature Woman** wanted as occasional companion for elderly lady in pvt. home, meals & lodging w/reasonable stipend in pymt., call 213-377-5936.
- I sincerely thank all of my friends & co-workers for the cards, flowers & phone calls during my illness.** BEULAH PRIEST.
- I wish to extend many thanks to all Northrop personnel who have helped me during the past 12 mos. while u/going a work experience training program.** I have many memories to take back to Australia with me. K. WHEATLEY.
- To all my friends & associates from the past 29 1/2 yrs., I say thanks, good luck & goodbye.** I've retired. BOB LIEBER.
- To all our friends at Northrop, our deepest appreciation for the many kind thoughts & beautiful flowers.** SYLVIA RAGATZ & FAMILY.
- I wish to thank all my friends at Northrop for the flowers & cards during the illness & loss of my mother.** OPAL BRIGGS.
- We wish to thank all of you for the special help you gave us after Harry's death.** KAY & GARY WIRTH.
- I wish to express my appreciation for the cards & flowers sent in regard to the recent passing away of my father.** JOHN STETTLER.
- Boys**, ages 7-15, wishing info. concerning enrollment in A.Y.S.O. soccer this season, call 213-675-6233.
- Fly & share expenses from Antelope Valley to Hawthorne, daily, 7:42 a.m.-4:42 p.m.** 805-948-7424.
- We wish to express our heartfelt appreciation & thanks to our many friends, co-workers & NRC for sharing with us the loss of our father, Carl A. Hannum.** HELEN KELLY & BOB HANNUM.
- I wish to thank my many Northrop friends for the gifts, cards, & good wishes extended to me upon my retirement.** MARION FLOWERS.
- My sincerest thanks to my many friends for the luncheon & gifts on the occasion of my retirement.** LOUISE T. McCULLOUGH.
- Thank you very much for your donation & all your kindness.** THELMA JOHOVICH, JAY & KAREN.
- I wish to thank the many friends who participated in the party & gifts upon my retirement.** LASSITER B. KEY.

## For Sale or Trade

- Volkswagen**, 1971 sunroof, 3,000 mi., \$2,100 or trade for good transportation car. 213-542-7646.
- Pickup**, 1963 GMC, 3/4-ton, 1964 eng. & parts, \$900 or trade for VW. 213-370-6896.
- Sailboat**, 13' O'Day, American trailer, access., \$650 or trade for pickup truck, van or car, will pay difference. 213-837-1625.
- Motorcycle**, 1967 Honda 305 Scrambler, \$350 or trade plus cash for good pickup. 213-378-8798.





VENTURA COUNTY press personnel who toured Ventura recently were shown the 747 paint procedures by Jack Bunnell. Visitors, from left, were Dave White, Oxnard Press-Courier; Nancy Smith, Thousand Oaks News-Chronic; Rich Heintz, Simi Valley Enterprise-Sun & News; Alan Fischler, Radio Station KNJO; and Brian Wilson, Radio Station KQIQ.

## Arnsparger Is Top July Suggester

Ron Arnsparger, of Fabrication Control, topped the July list of Suggestion Award recipients with a check for \$95 after he suggested a part change which would cut time and money.

Jack Moore received \$81 for a cost-saving idea involving cheese

### PICNIC

(Continued from page 1)

children. There will also be door prizes.

Cost is just 50 cents per person and 25 cents for youngsters ages 5-15. Adult guests will be admitted for \$1.

cloth and R. A. Salmonsens earned \$46 for suggesting that certain raw materials be purchased already cut to size.

G. L. Williams got \$40 for still another cost-cutter and \$20 was divided by Lee Bradley and Chuck Weinbrandt for an idea conceived jointly in 747 subassembly.

A better way to handle perishable items earned Shirlee Combs an award of \$18. Getting \$10 apiece for their suggestions were Pat Meltzer, F. F. Scaggs, Mel Turner and, again, G. L. Williams.

## Target Drones Have Been Way of Life for Three 20-Year Employees

Target drones, and more specifically their electrical apparatus, has been the way of life over the past 20 years for three Venturans who receive two-decade service pins this month.

All three, William Cope, Pat Douglas, and Alta Hegeman, began their Northrop careers with

the then-Radioplane Division. And all three worked on radio or electrical parts.

Today, Mr. Cope is an inspector, electronics and mechanical assembly; Mrs. Douglas is a senior lead assembler, electro-mechanical; and Mr. Hegeman is an assembler, electro-mechanical subsystems development.

## MQM-74B—Exceeds Goals

(Continued from page 1)

381 to 431 pounds.

Ray Lavi, manager of the Aeronautical Target Systems office, assigned Ken Wagoner the job of project engineer for the program.

Working with Mr. Wagoner in Engineering were Gene Linhart,

### APOLLO 15

(Continued from page 1)

two miles an hour faster than they normally would with all three chutes deployed.

The added velocity created no difficulty for the astronauts other than a jolting splashdown. NASA, North American Rockwell and Ventura Division experts are currently conducting an investigation to determine the cause of the chute's actions.

Dick Small, Dick Kipp, Dick Ranes, Marion Bottorff, Don Maxwell, John Gurule and Chris Benneche.

Dick Warner was the production manager. Advanced Production personnel working with him on the project included Earl Larson, Les Spencer, John Greene, Les Goodwin, Bob Bradford, Blair Chapman, Johnnie Via, Fred Streger and Earl Hammond.

Final Assembly was done by Les Myers, Bob Vogt, Milo Thomas, and Tag Tovlum.

Tool engineering was handled by Bill Shiffer and Art Kraft. Jack Lee was the Production Control man. Don Jones was the Materiel interface and Joe Pulver, Shipping, also contributed.

"A great team," Mr. Wagoner said. "They worked real well, as the test flight proves."

## LES MYERS, SON BUILD CAR FROM SCRATCH IN TWO YEARS

What better way to teach your son the fundamental knowledge of how a car works than to build one for him?

Les Myers, supervisor of Engineering Test at Ventura, used that premise and started, from scratch, two and a half years ago. Today his car is finished, runs well, and is licensed for street operation.

Some drawings on the garage floor at the Myers home in Canoga Park soon led to a frame.

A Model A Ford front end was called upon. He spent \$100 for an engine (six cylinder Chevy II) and transmission (automatic) and was off and running.

Spending a total of \$638.53 on parts, Mr. Myers used other parts that people gave him, bought some at junk yards and literally made what he couldn't scrounge or buy inexpensively.

He conceived his own body design and made it out of fiberglass along with the frame

around the radiator (the car has no hood) and the gas tank. The battery compartment is made of mahogany.

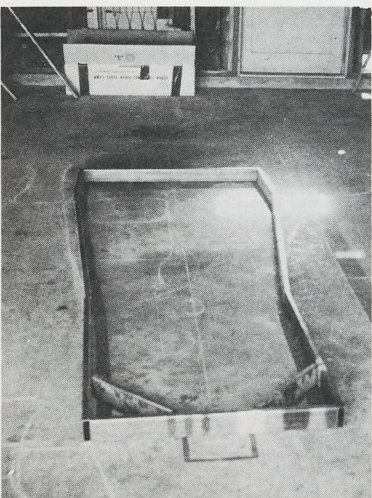
Mr. Myers' son Mike, 14, is "mechanically inclined," his father says, and has helped considerably. Some of his work included finishing touches on the mahogany fenders.

All interior and electrical work, including Stewart-Warner instruments on the dashboard, were done by Mr. Myers. From en-

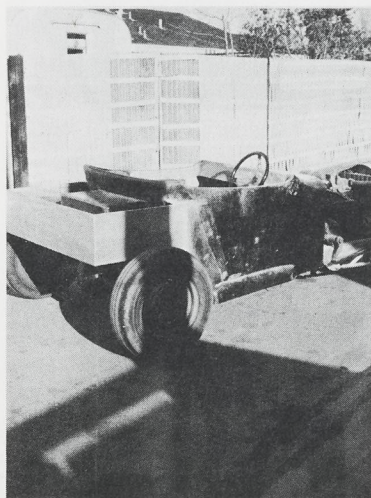
gine to dash, Mr. Myers and his son did it all. Even to the finished metallic blue paint job.

Was the project rewarding? Did Mike learn about how a car works? "He sure did," says Mr. Myers. "He has a job working on cars now—and not for me, either."

As for the rewarding part, Mr. Myers enjoyed the work so much he has just started on another job. This time he's building a boat.



BEGINNING



ONE YEAR LATER



FINISHED PRODUCT



# NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 29, No. 16

September 15, 1971

## Lippert Tops List Of Vets Earning Longevity Awards

Twenty-five years ago Verne Lippert joined the Radioplane Co. as an engineering checker. Today, he is with Northrop as a senior project administrator to lead the September list of service pin recipients.



Mr. Lippert

Others receiving Northrop service pins in August and September were:

### 15 YEARS

Betty Botwright, Virginia Noble, Ted Szostek, Cecil Townson, Doug Finch, Maybert Busko, Clyde Corder, Rosalie Stanford, Milt Lanning, Don Peck, Fred Longo, Jerry Koopman and Bill Gundlinger.

### 10 YEARS

Laurie Gomez, John Gurule, Russell Opfer and Russ Torgerson.

### 5 YEARS

Bill Hacche, Roma Nutter, Dick Ranes, Midge West, Ruth Bolin, Wally Brix, Wynne Jackson, Ken Dilbeck, Ramon Mendoza and Marian Robinson.

## Warren Clymer Looks to Hawaii for New Challenges Following Retirement

Warren Clymer capped a career of 21 years and three months with the Ventura Division when he retired Aug. 20.

Mr. Clymer served with the Financial Management Department assisting in Indirect Budgets and Collection and Disbursements. But he wasn't always in Finance.



Mr. Clymer

Back in 1950 he was hired into a three-man department at the then-Radioplane Division in Van Nuys which had charge of Shipping, Receiving, Production Control and Production Planning.

As the company grew, so did his responsibilities. Before long he was supervisor of the group with some 35 people reporting to him.



### WITH NATIONAL NAA AWARD

Carlyle Livingstone, left, congratulates Northrop's Eldie Lorentson.

## Venturan Leads Local Men To National NAA Honors

Eldie Lorentson, a member of the Financial Management Department at the Ventura Division, has led the local chapter of the National Association of Accountants to a national NAA award.

The Conejo Valley Area Chapter won an award for mem-

bership achievement in competition against 25 other chapters of less than 100 members. As membership chairman, Mr. Lorentson led last year's drive which resulted in a net membership gain of 27 per cent.

Past-chapter President Carlyle O. Livingstone received the award at the NAA's 52nd Annual International Conference in Honolulu, Hawaii, and, in turn, praised Mr. Lorentson's key contribution.

## British Navy Adds Chukar To Inventory

Great Britain's Royal Navy will add another Northrop target to its inventory next year with an order marking the second European sale of the jet-propelled MQM-74A/Chukar.

The Chukar, in service with the U.S. Navy as the MQM-74A, is currently used by services from four nations at the NATO Missile Firing Installation (NAMFI) on the island of Crete. Those nations are Germany, The Netherlands, Belgium and Greece.

British anti-aircraft gunnery and missile training teams have been utilizing the Northrop KD-2R5 Basic Training Target for the past 12 years. They have nicknamed the target "Shelduck."

Detachments of the Royal Navy Pilotless Target Aircraft Squadron have operated their Shelducks in the Far East, Africa, the Mediterranean and in Great Britain.

The British Chukar order, which utilizes portions of KD2R5 ground support equipment already in Royal Navy inventory, calls for deliveries in early 1972. Quantities and costs were not announced.



RECEIVING HIS 30-year Northrop service pin from Division General Manager Welko E. Gasich recently was Jean DePue, left. Mr. DePue is assigned to the NAMFI operation on Crete and Mr. Gasich made the presentation in Northrop offices there in July. Mr. DePue's 30th anniversary was in June.





FROM LEFT, JEHANGIR KERMANI, ALI AKBAR PAKDEL, HUSHANG SAMIE

## Iranian Technicians Earn Promotions in New Firm

Iran Air Craft Industries (IACI) has promoted its first three Iranian technicians—Jehangir Kermani, Ali Akbar Pakdel and Hushang Samie—to technical management slots as dock chiefs.

"The promotions epitomize the development of Iranian technicians as rapidly as training and the expansion of business will permit," said Bob Rolfe, IACI managing director.

IACI, in which Northrop holds a 49 per cent interest, is currently working out of a government hangar at Tehran's Mehrabad International Airport pending completion of company facilities at the same locale, now scheduled for May 1972.

Slated to become one of the

major centers between Rome and Tokyo for maintenance, repair and overhaul of aircraft and engines, IACI is expected to employ 1,000 persons by the end of 1973.

Iran's Civil Aviation Training Organization produces trained graduates for Iranian aviation and IACI draws a portion of graduates each year. Dock Chiefs Pakdel and Samie are graduates of the school, while Dock Chief Kermani was trained in the United States.

## TALKS PROGRESS WITH FULLER CO.

Northrop Corporation and the George A. Fuller Company are currently engaged in discussions regarding the possible acquisition by Northrop of the New York-based firm.

The Fuller firm, privately owned, has for many years been a leading building construction firm with annual sales currently in excess of \$150 million a year.

The acquisition is contingent on the Fuller Co. meeting stringent conditions. If consummated, the acquisition would be for cash and would involve no public funding.

## INSTRUCTOR

David R. Apodaca, Aircraft Division engineering specialist, will teach a special course in the Metallurgy of Stainless Steel to be offered over a 12-week period, beginning Sept. 22, at a downtown location.

Sponsored by the American Society for Metals, the course costs \$40 for members of ASM and \$45 for non-members.

## 'Package' of Spare Parts Rolls Out Quickly to Aid Repairs on Damaged 747

A highly successful team effort has helped Northrop put together and ship, ahead of schedule, one of the largest "packages" of spare parts ever assembled for a single aircraft.

That aircraft, Pan Am's first 747, was extensively damaged in a mishap July 30 at San Francisco International Airport. It is now being repaired in an around-the-clock operation.

Two key factors figured prominently in the successful effort.

One is the mutual respect and confidence shared by Northrop and the Boeing Company on the total 747 Program. The other is the outstanding job performed by Northrop Aircraft Division personnel in Program Management, Spares Management, Engineering, Manufacturing and Planning organizations.

As Boeing and Pan Am discussed repair operations for the 747 and accident investigators studied the mishap, Northrop personnel moved quickly to analyze the damage reports. From these reports came a detailed list of parts and assemblies Northrop felt were necessary for repairs. Boeing quickly verified these findings.

Thus, when the official work go-ahead on August 17 was received, Northrop had already commenced action. On Saturday, Aug. 21, the first shipment of repair parts was dispatched directly

to San Francisco. Subsequent shipments followed in short order so that by the end of August most of the needed items were on their way or on hand at the repair site.

Since initial damage reports were necessarily incomplete, Northrop is now working under an open purchase order to add additional items, as discovered, to finish the job.

More than 600 individual parts and items have been included in shipments, ranging from nuts and bolts hardware to complete assemblies, like a 3,600-pound lower bonnet assembly for section 46 of the Boeing 747.

Northrop preliminary detailed planning made possible the diversion of regular production parts and assemblies to the hurry-up repair requirements, with subsequent schedule adjustments making up for the diverted systems.

Many Northrop employees played a direct part in the dispatching of the spare items in addition to the Aircraft Division personnel. Examples include wing-to-body fairings by Ventura, floor beams by Electro-Mechanical, and floor panels by Northrop Pacific. Coordination, planning and shipping involved still others.

Plaudits from many sources have been received for the prompt and thorough assistance Northrop has provided in the program to date.



NORTHROP MEMBERS of the F-5 1,000-Hour Club hold models presented by Aircraft Division Vice President Milt Kuska. Hank Chouteau, center, is Northrop's chief test pilot. Donald Crane is retired USAF pilot now in Current Aircraft Systems Requirements. He helped set up F-5 training operation at Williams AFB in 1964, served there as instructor pilot and in South Vietnam as an F-5 advisor.

## Dr. Wortman to Study in Poland

Dr. Andrew Wortman, Aircraft Division engineering specialist, has been selected by the National Academy of Sciences for a 12-month research project in Poland.

This special exchange program is sponsored by the academy in the United States and the Polish Academy of Sciences. Dr. Wortman will center his research activities at the Institute for Fundamental Technical Studies in Warsaw.

A native of Poland, Dr. Wortman left there with his family in 1939, living in Russia, Iran, India and England, before coming to the United States in 1951. He completed studies for bachelor and master of science degrees at the University of California at Berkeley and earned his doctorate at UCLA in 1969.





#### JOHN R. ALISON ENDS 35-YEAR MILITARY CAREER

From Left, Lt. Gen. Paul K. Carlton, Maj. Gen. John R. Alison, Gen. Curtis E. LeMay (Ret.), Gen. Bruce K. Holloway. USAF photo.

### PARADE, FLYOVER

## John Alison Caps Long Military Career

A distinguished military career spanning 35 years was culminated last month during ceremonies at March Air Force Base marking the retirement of Maj. Gen. John R. Alison.

Gen. Bruce K. Holloway, commander, Strategic Air Command, presented General Alison the Distinguished Service Medal, the nation's highest peacetime decoration during the event which included a parade and flyover of military aircraft, including a World War II P-40.

The medal recognized that General Alison "distinguished himself as mobilization assistant to the commander, Fifteenth Air Force, from Sept. 1, 1960 to May 23, 1971."

General Alison, who joined Northrop in 1953, is Northrop Corporation vice president for Customer Relations.

In 1937, General Alison entered the Army Air Corps and was commissioned a second lieutenant after graduation from flying school.

During World War II, he served in England, Russia (training Russian pilots), the Southwest Pacific and the China-Burma-India Theater. In the latter, he flew with Gen. Claire Chennault's famed "Flying Tigers," earning recognition as an "ace" for destroying seven enemy aircraft.

General Alison left active duty in 1946 with the rank of colonel. Continuing as a reservist, he earned his first star in 1957 and his second in 1959.

In civilian life, General Alison served as assistant secretary of Commerce for Air, as a member of the National Advisory Committee for Aeronautics and as a consultant to the National Security Resources Board on the use of commercial aircraft in time of war.

### Finals Near for NMS Competition

Semi-finalists in the National Merit Scholarship Corporation competition to select 1972 Merit Scholars will be named for the first time next week (Sept. 22).

Among the select group—there are about 15,000 semi-finalists from approximately 700,000 students who entered the competition 18 months ago—will be sons and daughters of Northrop employees.

Northrop is again supporting the program by making scholarships available for presentations to sons and daughters of its employees. However, Northrop plays no role in the selection process which is carried out by the non-profit corporation.

Semi-finalists named must take the Scholastic Aptitude Test of the College Entrance Examination Board no later than Nov. 6. And they must supply personal information and receive the endorsement of their school principal.

### RECIPES ANYONE?

Friday (Sept. 17) is the deadline for submitting your favorite recipe for possible inclusion in a Northrop Cookbook.

A group of Electronics Division women employees plan to publish the cookbook this fall and sell it for a nominal amount. Proceeds will be used for charitable purposes.

Those interested in taking part are invited to send their favorite recipe, along with their name and division affiliation, to COOK-BOOK, 170/62.

### NRC NIGHT NEAR

Final calls for families interested in taking part in NRC Night at Magic Mountain are being sounded this week. The date is Sept. 25 starting at 7 p.m.

Tickets, available at all Personnel Activities outlets, sell for \$4 and entitle the holder to free parking, admission and unlimited use of all facilities, plus an opportunity to see top name entertainment at the new fun center. Bobby Darin will head this show.

## Reprints of Articles Are Available

Limited quantities of reprints of three articles about Northrop and its products are available to personnel through Corporate Public Relations and Advertising, Century City.

Robert R. Ropelewski has written an article titled "F-5E Keyed to Agility for Combat," which appeared in the July 12 issue of Aviation Week and Space Technology.

The article covers in detail many of the features of the F-5E and its capabilities, including planned flight test schedules.

The August issue of Cockpit magazine featured an article on Northrop, its beginning, history, unique methods of planning and marketing and the success features of key products.

#### Pilot's Viewpoint

Captains David R. Croft and Robert W. Wickman co-authored an Air Force Magazine article titled "I Fly The T-38" which appeared in August. Written from an instructor pilot's viewpoint, the article traces the uses of and success attained with the T-38.

Some indication of the two Air Force pilots' respect for the much-used supersonic trainer is evidenced in the final paragraph which reads:

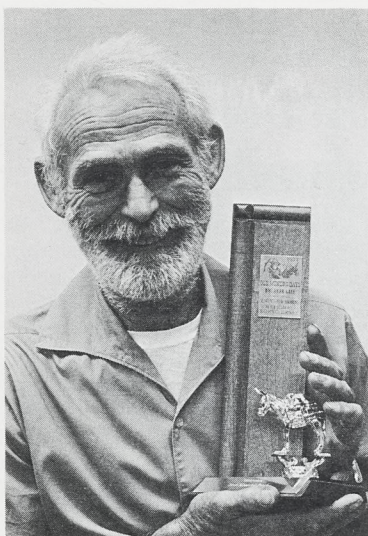
"It's a matter of pride to know you are flying one of the best airplanes in the world—a bird that's beautiful, clean, white, sleek, aesthetically pleasing. It's an airplane that demands respect and instills pride. You don't mind telling people, 'I fly the T-38'."



#### AV WEEK WRITER GETS F-5 CHECK-OUT PLAQUE

From left, Lt. Col. Roy Holbrook, Robert Ropelewski, Lt. Col. John Potter.





SCOTTY SCOTT, TROPHY

## Scotty Scott Is Old Miners' Day Whisker Champ

"I won by a whisker," said Charles "Scotty" Scott, as he displayed the trophy awarded him for having "The Most Miserable Beard" in the Old Miners' Day celebration at Big Bear Lake.

This is Scotty's third win in the Big Bear frontier celebrations. In 1961 and again in 1969 he took trophies for having the "Most Rustic Old Miner's Beard." A "rustic" beard, he explained, is one that has never been trimmed, but has been permitted to "grow wild."

Mr. Scott is a cabinet maker at the Torrance facility of the Aircraft Division and has been with Northrop about 15 years.



JOE SHAFFER AND ONE OF HIS FRIENDS

## DESIGN SPECIAL TRICYCLE

# Northrop Men Aid Handicapped Girl

Anna Johnson, a young cerebral palsy victim residing in Cypress, is now able to play outdoors with her friends, thanks to a specially modified tricycle designed and built by Jack Meyers and Bill Brenton of the Electronics Division.

The vehicle is a pedal driven trike, which is similar to a three-wheel bicycle. This was chosen because Anna's limited muscular control would not lend itself to a tricycle where pedals are a part of the front turning wheel.

The trike is equipped with a seat with a fairly high back and safety belt. Restraints have been placed on the pedals to help the youngster keep her feet on them. The handlebars are raised along with the seat to make them more suitable for her size.

"The challenge of learning to ride the trike was Anna's difficulty in gripping the handlebars," Mr. Meyers said. "Once this was accomplished, she had little trouble mastering the operation of the machine and finds it easy to operate now."

### Family Friend

Mr. Meyers, who is now assigned to Electronics Division's Northrop Dakota, Inc. facility in New Town, N.D., first became interested in the little girl through his daughter, who is a friend of Anna's older sister.

He learned that Anna's parents discovered she was a victim of cerebral palsy when she was about six months old. At that age she was unable to sit up or hold

her head up. Since that time, Anna has learned how to do many simple tasks, and is presently learning to walk in a normal manner.

Besides the personal satisfaction Messrs. Meyers and Brenton

have received from seeing little Anna able to be outdoors with other children, there is now the possibility that other similarly handicapped children can benefit from their specially designed tricycle.



### OUTDOOR FUN

Anna Johnson on her specially modified tricycle.

## Joe Shaffer Is Operating a 'Rest Home' For His Wild Friends From The Desert

Joe Shaffer's zoo is not a real menagerie, he says. It is a rest camp where his friends from the desert can come and spend a few days before they are returned to their natural habitat.

Mr. Shaffer, foreman in Electro-Optical Assembly at the Electro-Mechanical Division, brings back desert creatures to his home, keeps them a few weeks and then takes them back to the desert.

He began his round-robin zoo some years ago when he brought back a snake and a lizard so he could study and identify them.

Knowing that some species do not live long in captivity, he was careful to take them back in plenty of time.

From that beginning, he has continued his round-robin zoo and always has a number of kangaroo rats, rabbits, snakes and birds on hand.

Originally he detested the desert, considering it hot, dry and miles and miles of nothing. He only went there in order to find a place to shoot. Then the desert "grew" on him and at the same time he became interested in desert creatures.

He began trapping them so he could study them more closely.

"I won't kill one," he said. "The only animal I ever shot was a poor coyote and I've felt bad about it ever since."

Capturing desert animals is not difficult, he reports. "There are areas of the desert so tame that lizards will crawl on your arm, rabbits will come right up and look at you, and birds will land on your shirt and peck at the buttons."

### Patience Does It

There are some tricks to catching some of the animals. With lizards Mr. Shaffer just puts down his hands and waits. After a while, when he doesn't harm them, they crawl right up his arm.

King snakes can be tamed by letting them coil about your arm. "As soon as they begin to feel the heat of your body, they tame down," he said. "Originally I was very much afraid of snakes. Then one day I decided that was a dumb thing and I went out of my way to become acquainted with them. Once you get to know snakes, they aren't bad creatures at all."

"In fact, that is true of all desert varmints. They want to be friends if you'll just let them."



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- MGA 1600**, 1957, needs body & trans. work, \$150. 213-326-7528.
- Triumph**, 1968 fastback, GT-6, 4-spd., \$1,475. 213-378-8892.
- Datsun 1600**, 1968, h/top convt., radio, new tires & clutch, \$1,350. 213-379-1839.
- Dune Buggy**, kit bit., new top & doors, \$1,000. 213-675-4892.
- Fiat**, 1968 850 cpe., 4-spd., radio, 33,000 mi., \$1,025. 714-778-5828.
- Triumph**, 1970 M/C Tiger 650, 3,300 mi., \$1,050. 213-329-0086.
- Chevrolet**, 1965 Chev. Impala S.S., p/s, r/h, \$895. 213-831-3045.
- Toyota**, 1969 Corona, auto. trans., fact. air, \$1,550. 714-897-2007.
- Mustang**, 1969 Grande, 2-dr. h/top, r/h, \$1,500. 213-371-6662.
- Opel**, 1969 GT-1900, r/h, p/b, radial tires, \$2,150. 213-371-7197.
- Volvo P-1800**, 1962 sport coupe, AM/FM, \$850. 213-329-1705.
- Mustang**, 1965, stick shift, \$850. 213-423-5690.
- Ford**, 1964 Econoline, 6 cyl., lge. eng., \$750. 213-375-6458.
- Truck**, 1956 Chev. & camper, \$275. 213-378-3219.
- Volkswagen**, 1964, radio, \$675. 213-675-2331.
- Datsun**, 1969 sedan, 17,000 mi., \$1,350. 213-372-5367.
- Volkswagen**, 1968, r/h, new whitewall tires, \$1,100. 213-644-5463.
- Buick**, 1969 Riviera, 48,000 miles, full power, a/c, \$2,750. Box 1601.
- Volkswagen** bus-camper, 1965, Porsche powered, wood paneling, \$1,295. 213-378-4180.
- Edsel**, 1959 Range, \$750. 213-327-6918.
- Chevelle**, 1967 SS 396, 4-spd., \$1,200. 213-498-3013.
- Chevrolet**, 1969 Caprice, h/top cpe., many extras, \$2,450. 213-675-1842.
- Mustang**, 1965, V-8, auto. trans., a/c, p/s, radio, 43,000 mi., \$950. 213-378-2127.
- El Camino**, 1964, 283 cu. in., 4-spd. trans., 4 bbl. Holly carb., recent o/haul, \$775. 805-495-5368.
- Volkswagen**, 1959 dune buggy, \$550. 213-830-4832.
- Volkswagen**, 1970 squareback, auto., \$2,190. 714-847-5439.

## Miscellaneous For Sale

- Mattress**, king size, \$40. 213-823-5526.
- Rug**, 12'x20' nylon hi-lo, avocado, used 1 yr., \$80. 213-569-6543.
- Acreage**, 5 acres, on Hwy. 18, Apple Valley, grant deed, \$500 dn., 6.5% int., \$50 mo., \$5,500. 213-327-4356.
- Stereo**, Motorola, detach. spkrs., auto., long play or 45 records, \$50. 213-676-3365.
- Trailer Hitch**, for 1963 Buick Skylark or Special, \$4.50. 213-675-2005.
- Acreage**, 5 acres, adjacent to new fwy., Antelope Valley, 10% dn., \$18,000. 213-424-7351.
- Air Cooler**, Thermador evaporative-type mod. TCF-85P, \$15. 213-679-2864.
- Chord Organ**, Estey elec., 24 chords, 3 octaves, \$60. 213-675-6020.
- Tent Trailer**, Sears, 8'x13' zip on room w/ floor, \$350. 213-371-8879.
- Sewing Machine**, Singer uphol-type, walking foot & table, \$150. 213-675-2329.
- Air Conditioner**, window-type, 12,000 BTU/hr., \$70. 714-524-3591.
- Motorcycle**, 1968 CL 350 Honda Scrambler, \$495. 213-329-2842.
- Mobile Home**, 1970 Biltmore, 12' x 52' expanded liv. rm., \$500 dn., & take over bal., \$6,000. Box 1602.
- Pups**, min. Dachshund, AKC, dk. reddish brown, \$60 ea. 213-883-4471.
- Jukebox**, Wurlitzer, stereo & records, \$350. 213-371-3079.
- Kitten**, Burmese, male, champagne color, w/ papers, \$75. 213-377-9414.
- Living Room Set**, Chippendale, \$500. 714-531-4958.
- Range**, O'Keefe & Merritt, gas, 4-burner, copperstone, \$75. 213-532-1408.
- Surfboard**, Soul 7' 6" x 22 1/2", \$35. 213-375-0785.
- Surfboard**, 9', \$15. 213-377-5897.

## Miscellaneous For Sale

- Movie Camera**, Bolex, C8 w/master splicer, & light finder, \$40. 213-674-8610.
- Drum Set**, 4-pc. w/hi hat, \$85. 714-897-9334.
- Home**, Palos Verdes, 4-bdrm., 3 baths, office, study & hobby rm., 3,100 sq. ft., 5 min. to fwy., \$82,500. 213-831-0453.
- Stove**, 4-burner, 30", gas, 1 yr. old, \$75. 714-531-3368.
- TV**, 19" b/w portable, Packard Bell w/stand, access., \$42.50. 213-376-4831.
- Rear End**, Austin-Healey posi-traction, 3.90 ratio, \$140. 714-968-4573.
- Carbine**, customized military 8mm Mannlicher Mauser, 20 rds. new hunting ammo, 100 rd. empty brass, \$75. 213-327-4585.
- Chair**, Morris, circa 1895, \$145. 213-329-6039.
- Chain**, 3/8", 65' in 10' lengths, \$15. 213-325-3675.
- House**, 4-bdrm., 2 baths, lge. fam. & living rms., f/place, cpt., bltins, dble. car gar., fenced yd., \$43,900. 213-833-1970.
- Motorcycle**, 1971 Yamaha Mini Enduro, \$250. 213-532-7175.
- Boat**, 21' Trojan Lapstrake, 170 h.p. i/o. 4-wheel tandem trailer, many extras, \$1,500. 213-379-1031.
- Air Conditioner**, for 1967 Volkswagen, \$75. 714-528-0379.
- Motorcycle**, 1967 Yamaha, 100 cc Trailmaster, equipped for street or dirt, \$225. 213-372-6916.
- Swim Pool**, 12'x3' Doughboy, all access., cover, \$30. 213-596-9748.
- Tires**, 2 Goodyear polyglas, size L-78-15, \$20. 213-823-8694.
- Carpeting**, red, pebbletex, 8 x 10, \$25. 213-343-7880.
- Acreage**, 5 acres, California City, \$8,950. 213-830-5777.
- Dresser**, 6-dwr., walnut finish, laminated, \$15. 213-323-6748.
- Dog Basket**, med., \$2. 714-830-3048.
- TV**, Zenith 19", portable w/stand, \$35. 213-831-6882.
- Washer**, w/dryer, elec., \$100. 213-370-1314.
- Motorcycle**, 1970 Honda Trail 90, \$300. 213-378-4422.
- Horse**, Arabian mare, jumper, 6 yrs. old, 14 hands, \$500. 714-549-0436.
- Motorcycle**, 1965 Honda 160, knobby tires, \$150. 213-329-3593.
- Tape Deck**, Muntz 4 & 8-track, stereo, converter, 2 spkrs., over 25 tapes, \$75. 213-291-5280.
- Pups**, AKC tiny toy poodle, apricot, 7 wks. old, \$125. 213-596-3618.
- Surfboard**, Rick, 7' 8", \$50. 213-679-6610.
- Cots**, Sears, 2 sets, use as single or bunk beds, \$15 pr. 213-323-7171.
- Radiotelephone**, marine VHF, 35 w., \$275. 213-322-6655.
- Rifle**, .222 cal. Rem. w/scope, 50 rnds. ammo, extra brass, \$100. 714-828-7873.
- Dining Table**, antique, round, oak, 3 leaves, \$145. 213-375-9340.
- Motorcycle**, 1969 Honda 90 Motosport cam, big bore, street access., many extras, \$250. 213-323-6456.
- Slide Projector**, Argus 500 Electromatic, 35mm, 100 Airquit mags., 3 carrying cases, \$50. 213-541-2710.
- Wiglet**, 100% human hair cascade, light ash brown, \$7. 213-865-2724.
- Pups**, AKC miniature Dachshund, 9 wks. old, \$75. 805-483-0594.
- Motorcycle**, 1970 Suzuki 90, 1,300 mi., \$300. 213-675-7982.
- Tires**, 4 Union 4 Star White, s/wall, 6.78 x 14, 4-ply belted, used 1,000 mi., \$140. 213-295-9997.
- Exacta**, VX 1000 35mm sys., 5 lenses, D.T. bellows, 2 S.M. lenses, pro case, strobe, extras, \$350. 213-835-3869.
- Dining Table** & 6 chairs, French provincial, \$150. 213-644-7981.
- Vacuum Cleaner**, Universal, canister, \$10. 213-534-0253.
- Radio Control Set**, model airplane-type, Hallco 103, 3 channels, \$35. 213-377-6435.
- Boat**, 1970 Evinrude 17' all-purpose, 155 h.p. Buick V-6, OMC dr., trailer, bait tank, \$3,595. 213-325-5859.
- Luggage Carrier**, enc. w/clamps, 4' x 6', \$20. 213-675-1616.
- Land Camera**, Polaroid, swinger mod. 20, \$5. 213-374-8289.
- Records**, 25, 33's, 45's, 78's, \$8.50. 213-378-1863.
- Houses**, 2, 2-bdrm. ea., on 1 lot, close to Northrop, completely fenced, \$140 monthly pymts. if existing 6% loan is assumed, V.A. or FHA, \$33,000. 213-675-6016.
- Range**, elec., Westinghouse Continental, eye-level oven w/glass door, \$100. 213-675-0788.
- Stroller**, & crib, \$18. 213-679-1879.
- Surfboard**, 9' 9" Hansen, \$25. 805-495-3153.

## Laredo AFB Pilot Training Wing Goes Home With Three Top Awards

The 3640th Pilot Training Wing of Laredo AFB, Tex., has won the USAF Outstanding Unit Award, the ATC Flying Hour Honor trophy and an Award of Honor from the National Safety Council.

Presentation of the honors came at a recent Commanders'

Conference held by Air Training Command.

The unit award recognized "exceptionally meritorious service" in support of the USAF training mission. The 3640th graduated 900 pilots, flew 221,210 hours and logged 444,879 landings during the two-year award period.

The Flying Hour Honor was for completing 100,000 flying hours without a major or minor accident. The NSC award recognized a 43.8 per cent reduction in composite ground accident rates during the calendar year.

The 3640th flies Northrop-built T-38 trainers for training student pilots.

## POLICE TOUR

As a courtesy to Police Commissioner Marguerite Justice, the Public Relations Department of the Los Angeles Police Department conducted a special four-hour tour for Northrop Corporation employees last Saturday. Tours are normally conducted during the week only.

Mrs. Justice is the wife of William H. Justice, Jr., Northrop Data Processing.

Northrop visitors saw the full scope of police activities in action, including dispatching, fingerprinting, plus a look at a detention cell.

## Miscellaneous For Sale

- Shotgun**, 16 ga. pump, adjust. choke, J. C. Higgins, case, \$40. 213-670-0852.
- Hemi**, 392 cu. in., complete w/3-spd. std. trans., \$150. 213-641-7080.
- Mobile Home**, 10x55 w/7x22 expando, 1965 Skyline, carport, skirts, awning, tool shed, air coolers, in adult park, Escondido, \$3,800. 213-378-0501.
- Kitchen Set**, 5 pcs., white mica, \$17. 213-674-0852.
- End Tables**, solid maple, \$40 ea. 213-675-3996.
- Cement Mixer**, Sears elec., wheelbarrow-type, 1 1/2 cu. ft. mix cap., \$80. 213-377-5853.
- Gyrocopter Glider**, ready for eng., 2 5-gal. tanks, blades, whl. covers, \$800. 805-947-1026.
- Condominium**, 3-bdrm., 2 1/2 baths, rec. room, 2 pools, Rolling Hills area, \$34,500. 213-547-2716.
- Mobile Home**, 10' x 55', expanded liv. rm., 13' x 18', awnings, cooler, 5' x 7' redwood cab. storage, in adult park, \$5,500. 213-320-2512.
- Bicycle**, girl's 20", \$10. 213-645-7972.
- Motorcycle**, 1965 Yamaha, 80cc, full dirt setup, GYT kit, extra parts, \$200. 213-425-7243.
- Fall**, frosted, 100% human hair, \$25. 213-377-2631.

## Wanted To Buy

- Freezer**, upright, thin-wall construction, in good working cond., reasonable. 714-546-6714.
- Hardtop** for 1957 Triumph TR-3. 714-635-7975.
- Drafting Machine** & table. 714-968-1539.

## Free (To Be Given Away)

- Kittens**, 213-545-6262.
- Pups**, Toy Terrier/Pug, born July 26. 213-375-8460.

## Rentals Offered

- House**, near West High, Torrance, 4-bdrm., patio, dble. gar., \$340 mo. 213-542-6808.
- Condominium**, 2-bdrm., Palm Springs vicinity, furn., pool, \$60 w/end, \$100 wk., 213-327-8994, 213-324-5709.
- Cottage**, Ocean Bch., San Diego, near Mission Bay, \$75 wk. 714-826-2007.
- Studio Apt.**, 2-bdrm., 2 1/2 baths, sub. gar., adult bldg., Inglewood, \$225. 213-670-6084.
- Garage**, at 120th & York, Hawthorne, \$10 mo. 213-672-1716.

## NORTHROP NEWS

Vol. 29

No. 16

Published monthly by Corporate Public Relations and Advertising for the employees of Northrop Corporation.

Mailing address: Northrop News, 170/62, Northrop Corporation, 3901 West Broadway, Hawthorne, California 90250.

## Rentals Offered

- House**, Bass Lake, \$150 wk., \$45 w/end. 213-374-3702.
- Cabin**, Green Valley Lake, \$65 wk. 213-320-2002.
- Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.
- House**, 3-bdrm., 2 baths, Garden Grove area, \$245 mo. 714-968-5343.
- Apt.** (house unit), lge., 3-bdrm., 2 baths, cpts., dps., closed gar., near Northrop, children ok, \$215. 213-675-7938.
- Cabin**, Moonridge area, Big Bear Lake, sleeps 8, \$25 night, \$125 wk. 213-375-0493.
- House**, 2-bdrm., den, pool, 2 baths, sep. service porch, used-brick corner f/place, bltins, cpts., dps., unfurn., rent w/option to buy, in Whittier, \$250 mo. 213-943-8187.
- Cabin**, Lake Arrowhead, 200 feet from lake, pvt. dock, \$120 1 wk., \$200 2 wks. 213-375-2255.
- House**, Rolling Hills, 3-bdrm., 2 baths, lease, cpts., dps., bltins, \$350 mo. 213-674-8534.
- Apt.**, deluxe, P.V. Dr., Lomita, 4-bdrm., 2 1/2 baths, pool, outdr. maintenance provided, cpts., dps., patio, \$315 mo. 213-325-5609.
- House**, Hollypark, 3-bdrm., family room, 2 baths, \$190 mo. 213-349-6854.

## Child Care

- Child Care** offered, daily, 2-yr. old or older, begin Oct. 4. 213-644-9018.
- Babysitting**, my home, days only, fence yd., 2 blocks from main plant. 213-644-6653.

## Personals

- Our sincere thanks to all for the kindness & thoughtfulness at the recent passing of my wife, Agnes. TED GARVEY & FAMILY.
- I wish to express my thanks to all my friends & co-workers for the retirement party & gifts. VIC BRENNEMAN.
- I wish to express my thanks to all my Northrop friends & Orgn. 5503 for the retirement send off. ELMER LOHRY.
- My sincere thanks to my friends for the party & gifts on the occasion of my retirement. HENRY P. GRIGGS.
- Ride wanted, 8 a.m., morning only, from vicinity of Ball Rd. & Walnut, Anaheim, Electro-Mech. ext. 220, 714-774-9286.
- Thanks to my Northrop friends for the lovely cards & flowers. JUNE CURTRIGHT.
- I wish to thank all my friends for their cards & well wishes during my illness. AL LUCAS.
- Pilot Wanted**, instrument rated, to join flying group commuting to work between Orange County & Hawthorne airports. 714-544-5297.



## Division's Golf Teams Finish Play In Rancho Conejo Industrial League

Ventura's two teams in the Rancho Conejo Industrial Golf League finished fourth and seventh, respectively, as regular play at Los Robles Greens ended with the 18th and final match in August.

Finishing behind Panorama Paint, Capitol Records, and Puro-lator was Northrop Team No. 1 composed of Ron Aitken, Ken Brubaker, Al Hahn, Bob Jones, Sam Marcantonio, Joe Sliakis, Warren Sparks and Dick Warner.

## Schaeffer Wins Golf Tournament

Bob Schaeffer's net score of 66 won the A Flight but was overshadowed by Gary Paulsen's gross 72 as the Ventura Division Golf Club played the Santa Barbara Community course on Aug. 28.

Roy Shelly increased his margin in over-all point standings with a second place finish of 70 and Norm Curtis, third in the standings, was third in the A Flight with a 71.

Ed Sheridan's 67.56 won the B Flight, barely edging Dave Cheney who came in at 67.88. Bill Mulvihill was third with a respectable 69.

In seventh was the other Northrop squad including Ben Bierre, Herb Covell, Bob Feakins, Andy Hopper, Dick Kipp, Harry Parker, Tom Riley, John Roach and Grady Means.

Of the ten participating teams, Northrop's No. 1 finished with the best team handicap average in the league, 6.61. The winning club had a 6.80 average with the second and third teams each at 8 plus.

## Tickets on Sale For Rams Games

A limited number of tickets are now available in the Recreation Club office for three National Football Conference games featuring the Los Angeles Rams in the L.A. Coliseum.

Reserved seats are \$4 each and a round-trip bus ride to the games is an additional 50 cents for each date.

There are 38 tickets offered to Venturans for the Oct. 3 game against the Chicago Bears and 38 for the Oct. 24 game with the Green Bay Packers.

The other game which the Rec Club has secured tickets for is Nov. 21 against the San Francisco 49ers. There are 45 tickets on hand for that match.

## TOP SUGGESTERS

Ron Lischak's suggested modification of the MQM-74A target decoder saved Northrop money so the company rewarded him with a \$94 check in the Suggestion Awards Program for August.

Wally Brix and F. T. Baker each received \$25 awards for their money-saving suggestions and J. W. Tremblay was awarded \$13 for another time-saver.

Earning bonus checks of \$10 each for their ideas were Ken Irwin and M. T. Matautia.

## SOFTBALL TEAM ENDS SEASON

A disappointing season ended on a high note for Ventura Division softball players when they routed State Farm 11-7 to finish the league with a won 4, lost 10 record.

Tom Leichtfuss led the attack with three hits, including a three-run homer. Bob Jones tripled as he also collected three hits and Ralph Reeves also had a 3-for-4 day at the plate in the victory.

Shortstop Dean Wolf was the offensive leader of the club according to final tallies. He led the



ON CONEJO PLAYERS STAGE

Lou Dumond in a scene with Carla Molter in "Sound of Murder."

## Lou Dumond on Stage in Conejo Players Production

It's a pretty sad story when a guy goes from heel to murderer, but that's what Ventura's Lou Dumond has done on the stage of the Conejo Players Theater in Thousand Oaks. Only he's not sad about it.

Mr. Dumond, an administrator in Engineering, is currently appearing in the Conejo Players production of "The Sound of Murder," a three-act mystery drama.

As Peter Marriott he is the murderer and a key supporting player in the cast of six. In his most recent Conejo Players appearance, a drama entitled "Dear Friends," he played the part of a "real heel, a rat."

"The Sound of Murder" opened its five weekend run Sept. 3 and closes on Saturday, Oct. 2. Preceded by a six-week rehearsal schedule, the play has kept Mr. Dumond's evenings pretty busy.

He has been in 10 or 12 Conejo Players shows over the past 10 years and had theater experi-

ence in Maine and New York before coming to California.

Mr. Dumond says he enjoys little theater work and has had many different parts: from Pontius Pilate in an Easter Passion Play to the composer Borodin in a musical based on the life of Peter Tchaikovsky, to name a few.

### Wife on Stage, Too

His wife, Dot, is equally active. "Usually we have to stagger our involvement so one or the other can babysit," he explains.

Mr. Dumond also holds an elected post with the Conejo Valley little theater group as executive producer and was an assistant director for another play.

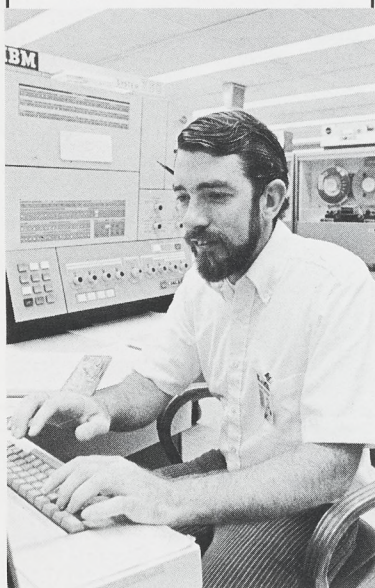
Tickets for "Sound of Murder" can be obtained by calling 495-3715 in the Conejo area; 889-1761 in the Westlake-Agoura area; or 486-6611 for theatergoers living in Oxnard or Camarillo.

## Venturans Earn Advanced Degree

Jack Haley, manager of Industrial Engineering and Master Scheduling at the Ventura Division and Bill Kearney, manager of Production, have been awarded master's degrees in business administration from the Pepperdine University Graduate School of Business.

The MBA program involves class meetings twice weekly, extensive reading, study, discussion and a thesis at the end of the year-long effort. Classes meet at the Ventura Division. Several other Ventura men are also participating.

## On The Job



**RALPH REEVES** is a senior computer operator with Northrop Data Processing assigned to the Ventura Division. With Northrop six years, Mr. Reeves is shown operating the IBM 360/30 computer which transmits data via direct line to an IBM 360/65 computer at NDP headquarters in Hawthorne.



# We Win 'Next Generation' Drone Study Contract

A Ventura Division-led team has been awarded an important contract by the U. S. Air Force to study the next generation of drones known as Remotely Piloted Vehicles (RPV's).

Northrop's winning team—which will also draw on the total Northrop aerospace electronics

capability—includes TRW and Cubic Corp. Ten major firms competed for the two parallel contracts.

The highly significant \$294,000 RPV study will define system design for three mission areas: air-to-air combat, air-to-ground weapons delivery and reconnaissance.

While exploring possible development costs, capabilities and schedules, the eight months study will also examine adaptation of a single vehicle design to perform all three missions. Preliminary design work is also included in the contract.

Heading the successful proposal

team was John Flores, manager of Technical Operations at Ventura, with assistance from Charles Bernstein of the Corporate office. Playing key roles in the Ventura effort with Mr. Flores and Mr. Bernstein were Jack Duganne, Customer Requirements and Augie Quenon, Implementation.

## NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 29, No. 17

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ADMIRAL REVIEWS MK 30 PROGRAM

Commander Leavitt, left, Admiral Halvorson with Orv Kyler and Earl Clark.

## Italians Complete Special Training Course on Chukar

Three representatives of the Italian firm of Meteor, S.p.A., have concluded a special two-week training course in flying the Northrop MQM-74A/Chukar on a computer simulator.

The men, Dr. Carlo Spano, Enzo Battaglia, and Claude Libertini, were preparing for Italian Armed Forces use of the Northrop target on the Sardinian Missile Range.

The Italian program, under the auspices of Northrop licensee Meteor, will parallel the full services Northrop program for NATO forces at NAMFI on Crete.

"This was a very special training course," explained Marsh Loane, of Ventura's Field Services and Training branch, where instruction took place.

"On the Sardinian Range, the

launch and control station will be 15 miles from the radar tracking station," he said, "so two men must work together simultaneously. One will track and give commands and the other will respond and control."

### Two-Man Task

The training course found one man, the tracker, watching the tracking panel and calling commands to his partner. The partner, at the control center, responded to the commands by adjusting the flight path of the target.

Then the roles were reversed. In actual operation on Sardinia the tracker and controller will be connected by telephone.

"It was very unusual and very successful," said Mr. Loane at the conclusion of the instructional program.

## Admiral Halvorson At Mk 30 Demonstration

The visit of a U.S. Navy Rear Admiral to the Ventura Division was highlighted by the demonstration of a helicopter launch and recovery of a simulated Northrop Mk 30 underwater target at nearby Point Mugu.

Adm. George G. Halvorson of the Naval Ordnance Systems Command (NOSC) Headquarters saw the exercise with the dummy Mk 30 while attending a three-day conference at Point Mugu.

His Southern California visit included a half-day session at the Ventura Division where he was accompanied by Commander Horace M. Leavitt. Commander Leavitt is acting director of Torpedo Systems Division at NOSC.

Admiral Halvorson, Commander Leavitt and Norman A. Crone, also of NOSC's Mk 48 project office, were briefed on Northrop and the Ventura Division and toured the facility.

In the Mk 30 area the group saw a presentation and demonstration of Mk 30 modifications, costs and production capabilities. Leading the program was Orv Kyler, manager, Underwater Systems.

The Mk 30 is currently deployed by the Navy at the Pacific Missile Range's Barking Sands facility and underwater range in Hawaii.

## Venturans Earn Service Awards

Twenty Ventura personnel qualified for service pins this month representing 225 years of service with Northrop Corporation.

Topping the list are four recipients of 20-year pins.

They are: Glyn Blythe, KD2R-5 Final Assembly; Clyde Dawson, Jr., General Purchasing; Gordon Reeder, Target Systems Project office; and Don Warner, vice president of the Engineering Department.

Other Venturans receiving service emblems this month:

### 15 YEARS

Ted Bennett, George Gaudry, Joyce Nelson, Larry Parson, Leslie Stewart and Russ Thomas.

(See AWARDS, page 6)

## HEAT FAILS TO DETER PICNICKERS

Temperatures over 100 degrees didn't deter 880 Ventura employees, their families and guests from enjoying the annual Northrop Recreation Club-sponsored picnic at the Calamigos Star C Ranch in the Malibu Mountains.

Thirsty Venturans consumed some 6,000 cups of free soda pop when they weren't swimming, boating, fishing, eating the barbecue beef lunch or participating in other games and events.

The program was run by Star C personnel, although a Rec Club committee including Dorothy Prychoda, Paul Potter, Bill Umbenhauer and Bill Dierker were responsible for the picnic's success.

Among those who had an especially good time were door prize winners Marv Bullock, Ed Kephart, Don Jones, Bill Glass and Bob Prieve.





IT'S ALMOST TIME to replace that hour we lost in April when Daylight Saving Time started, Sharon Byerly, Aircraft Division, reminds us. The time changes back to standard time at two a.m. on the last Sunday in October. Just run your clock back one hour and you'll be on time for work the next Monday.

## Northrop Dakota Holds Anniversary Open House

More than 1,200 persons attended an Open House earlier this month at Northrop Dakota, Inc., to celebrate the plant's first year of operation in New Town, N.D.

The Open House was held in conjunction with several other activities in the New Town area, on

a day which honored Senator Milton R. Young, R-N.D., for the numerous contributions he has made to the community.

Northrop Dakota, Inc., produces parts and items for use in Northrop electronics equipment and aircraft. The plant employs approximately 63 people, the majority of whom are Indians from the nearby Fort Berthold Indian Reservation.

Visitors to the plant viewed a number of exhibits, including models of the Northrop F-5E and the U.S. Marine Corps AV8A vertical takeoff and short landing aircraft. Also on display were an operational voice warning system, the inertial measurement unit for the C-5 navigation system, a high-speed, general purpose digital computer and a mock-up of the highly successful OV5-9 spacecraft.

In addition, local residents were shown a 15-minute color slide presentation on the worldwide capabilities of Northrop.



GETTING TO KNOW NORTHROP DAKOTA, INC.  
Visitors viewing exhibits at the Open House celebration.

## First F-5E Assemblies Are Moving on Schedule

Moving precisely on schedules established almost a year ago, major subassemblies for the new Northrop F-5E fighter are now appearing in increasing numbers along Aircraft Division assembly lines.

Initial subassemblies — sections of the inlet ducts and parts of the center and forward fuselage — were loaded into assembly jigs Oct. 8 as originally scheduled in late 1970, shortly after Northrop contracted to develop and produce the F-5E for the USAF.

The first subassemblies, plus others that have joined them subsequently, are destined for use in initial flight test aircraft of the F-5E fleet.

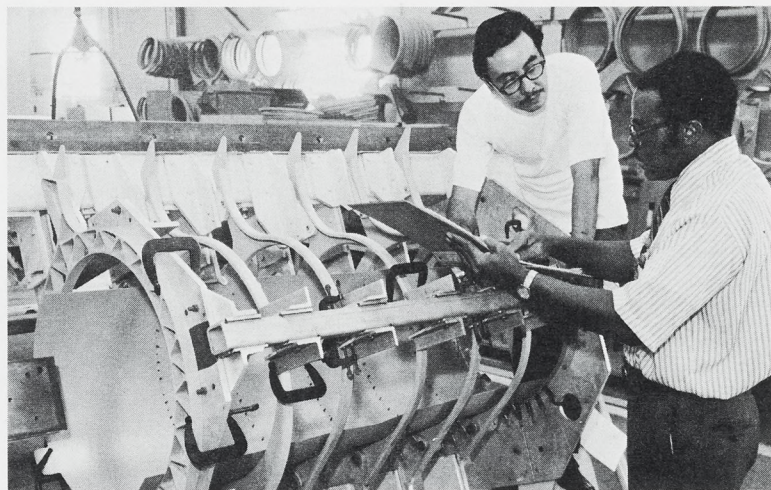
Following factory completion

at the Hawthorne plant, flight test aircraft will be trucked directly to Edwards AFB for tests. The first aircraft is now slated for flight in early summer of 1972.

Components for use in both static and fatigue test aircraft are also flowing on assembly lines, along with flight test aircraft parts.

Darrell McNeal, manager of F-5/T-38 Assembly Operations, called the on-schedule loading of initial parts a "significant achievement across the board."

"Every department, from Engineering to Tooling, Materiel to Machine Shops, Planning to Quality Control, has contributed to this status," he said. "Many individuals are due a 'well done' for their efforts."



FIRST F-5E SUBASSEMBLY IN JIGS  
Guillermo Navarro, left, discusses work with Earl Bentley.

## PPD Handles Grid Ticket Distribution

Electronics Division's Precision Products Department, Norwood, Mass., was recently awarded a contract for distribution control of all season tickets to the New England Patriots' new 61,000-seat football stadium in Foxboro.

The new system, which imprints tickets for all of the Pa-

triot's home games on a single sheet of paper, was devised by PPD's Data Processing group.

"This is one of several new commercial accounts being handled by our people," said Art Dubnow, chief of Data Processing. He added that the department is currently investigating similar programs with other companies.

## ALUMNI GROUP SELECTS GIL NUNN

A Ventura Division photographer, Gil Nunn, has been elected second vice-president on the executive board of directors of the newly-formed Brooks Institute of Photography Alumni Assn.

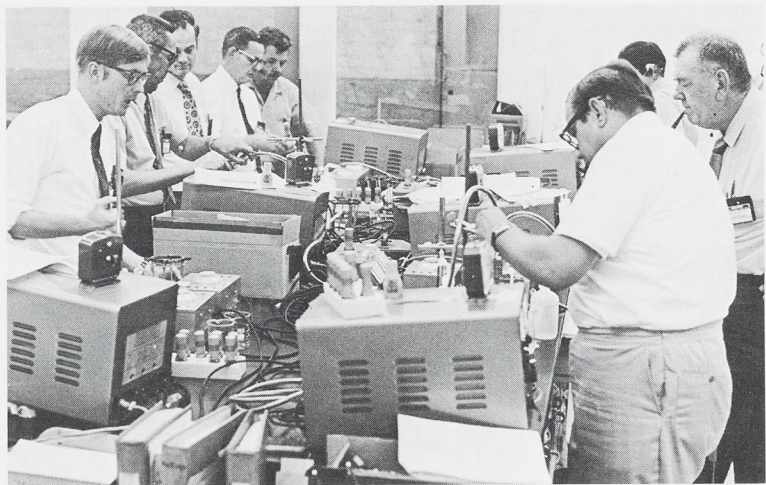
Mr. Nunn was named to the board while attending the recent statewide convention of the Professional Photographers of California in Fresno.

Two of Mr. Nunn's photos were

selected by judges to be among the limited number displayed for the 1,000 visitors to see at the convention.

The photos, both in color, were of a Northrop MQM-74A target being launched in an exercise at Twenty-Nine Palms and another entitled "Help." The latter shows a yellow flower alone in a profusion of pink and fuchsia flowers.





**NORTHROP AIRCRAFT'S** Quality Engineering Lab has provided the classroom facilities and hosted a Boeing Company school for plating vendors. The class included instruction in the use of a new machine to check for hydrogen embrittlement in plating solutions. Shown using the test equipment in class are, left, Ameil Forshee, TBC; Henry Meers, Bendix; Art Scherman, TBC; John Kemper, and Chester Bowling, Super-Chromex. At right are Bill Snyder, Embee; Bob Litchliter, Menasco.

## Northrop Support Personnel Take Part In Important NASA Scientific Flights

Northrop support personnel participated in two recent important scientific flights of the NASA Convair 990 flying laboratory, at Ames Research Center, Moffett Field, Calif.

The most recent flight, departing from Wallops Island, Virginia, on Sept. 7, participated in the Barium Ion Cloud launch. This experiment in effect placed a man-made star-appearing image in the sky to be observed from points in South America and the west coast of the United States. The star effect was fired at 20,000 miles above the earth by a rocket and was viewed by scientists in the CV-990 at an earth point approximately 300 miles east of the Bahamas Islands.

The other flight, made two months earlier, carried scientists on the Hawaii Mars Observation flight. This flight enabled scientists to view the planet from a

position above the greatest mass of the earth's atmosphere. Data gathered is expected to aid the projected NASA unmanned rocket exploration of the Red Planet.

Northrop support personnel participating in the CV-990 program are flight support members stationed at Ames Research Center, Moffett Field, Calif., according to Frank Schroeder, resident manager of Northrop activities at Ames.

They are: R. W. Adkins, pilot; E. C. Mitz, flight engineer; R. J. Watson, crew chief; and flight support technicians D. R. Burris, G. H. Harner, C. P. Kahl, C. A. Robinson, C. T. Simpson, B. C. Tatum and P. V. Wolfe.

### They Also Serve

Other flight support members assisting in NASA aircraft maintenance, but who were not on the Mars observation flight are K. W. Givens, B. B. Gray, K. D. Osborne and F. W. Stillman.

In addition to those associated with the Convair 990, Northrop Support, Inc., has approximately 36 other technicians and engineers at Ames Research Center who support flight simulator operations, Bio-Medical Research, Long Path Gas Cell activities, wind tunnel equipment and Zero-Zero landing systems.



**GAGE SNOOK**, Aircraft Division, has been named national chairman of the Northrop Institute of Technology Alumni Association's annual Giving Campaign.

## Two Officers Begin EWI Training With Northrop

Captains Donald W. Bishop and John A. Justice, USAF production/procurement officers, are in the early phase of a 43-week tour of duty with Northrop Corporation as participants in the Education With Industry (EWI) Program.

This program, a joint venture of the Air Force Institute of Technology and leading government contractors, seeks to train young career officers in a technological - management environment affording them an opportunity to interpret events and make better decisions.

A basic program goal is to develop an understanding of the complete cycle involved in system concepts, design, development, testing and production.

During their stay at Northrop the officers will rotate through major departments and functions throughout the corporation, actually working on management-level problems. They will visit each major operating division, plus subsidiaries and specialized departments. A part of their time will be spent at the Corporate office.

Captain Bishop, a native of Alabama and graduate of Auburn University, entered the USAF in 1965. He served one year as test director of airborne electronics at Eglin AFB and for two years was deputy director of a remote satellite control station on Guam. He also served as maintenance officer and commander of the 1st Geodetic Communications Electronics Squadron.

The holder of B.S. and M.B.A. degrees from the University of Tennessee and the University of

Montana, respectively, Tennessee-born Captain Justice entered the USAF in 1964.

He was a senior Minuteman missile combat crew commander at Malmstrom AFB, Montana, for three and one-half years. He served as fuels officer for the 8th Tactical Fighter Wing in Thailand for one year and was base fuels officer for the Air Defense Command at Kingsley Field, Ore.

## NAS GETS PACT FOR MATERIALS

Northrop Architectural Systems has been selected to supply architectural materials for another important Southland building.

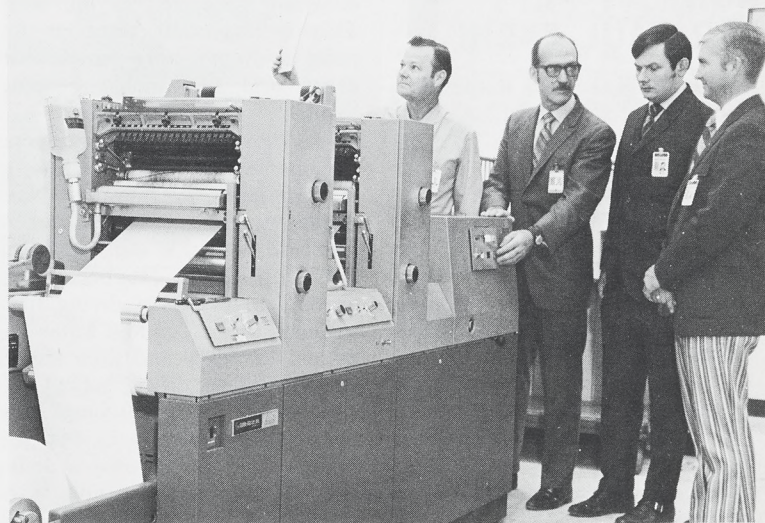
NAS has received a \$3 million contract for the curtainwall for the 62-floor United California Bank building in Los Angeles which will be the tallest building west of Chicago.

Recently, NAS completed the curtainwall installation on the Balboa Insurance building in Newport Beach and is completing work on the Ahmanson Center, Los Angeles, and the Lawrence Welk building, Santa Monica.

## CLASS IS OPEN

Northrop Toastmasters will launch a "Speechcraft" course October 28 and invite all employees to take part.

Session will be held from 6:30 to 8:30 p.m. each Thursday for eight weeks at the Turner Century Motor Hotel on Century Blvd. Contact Charles Ferraro, ext. 2927, or John Williams, ext. 2471, at the Aircraft Division, for information.



**EWI TRAINEES STUDY GRAPHICS OPERATIONS**  
From left, Tommy Thomas, Don Baker, Capt. John Justice, Capt. Donald Bishop.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**





Erik Tandberg

## Northrop Men in World Tourney

The Hawthorne Hustlers, a fast-pitch softball team that originated in NRC and continues to rely heavily upon Northrop talent, have competed in their third International Softball Conference World Tournament at Tulsa.

Deadlocked with Santee at the end of regulation play in the Western Softball Congress, the Hustlers took a best-of-three game series to earn the right to compete in Tulsa.

The Hustlers downed Wells-ville, Utah, 7-0, and Mesa, Ariz., 9-2, before dropping a 4-3 game to Englewood, Colo. A second loss, 5-0, in the hands of El Paso eliminated the team.

Last year the Hustlers dropped their opening games, again to El Paso, then won eight straight before bowing to Phoenix in the championship round.

Pitcher Greg Halberg, second baseman Bill Greene and catcher Terry Birdsall are Northrop employees. Northrop's Monte Halberg is the general manager and Ray Hofius, the scorer.

## HONESTY PAYS FOR PAUL FARHI

Paul Farhi, son of Ralph Farhi of Product Support, Aircraft Division, has discovered how rewarding honesty can be.

The 13-year-old ninth grader was en route to school when he found a shiny pendant in the grass. He brought his find home and his parents had it appraised by a local jeweler. Its value: \$1,500.

The Farhi's turned the diamond over to the West Los Angeles police station and in short order it was returned to its owner, a neighbor of the Farhi's who had received it as a 25th anniversary present.

The grateful owner promptly presented Paul with a \$50 check.

## A BUSY NORWEGIAN

# Major Tandberg—Man of Many Talents

Major Erik Tandberg is a man of many talents—military officer, television commentator, lecturer, space exploration authority, to name a few.

Major Tandberg is currently F-5 project officer for the Royal Norwegian Air Force's (RNoAF) Air Materiel Command.

During a business visit to the Aircraft Division, Major Tandberg talked with Northrop News about his unusual career.

"I enlisted in the RNoAF in 1952, answering an advertisement for men to come to the United States for specialized mechanical training. I completed that training at Amarillo and Chanute AFB's," he said. "Subsequently, I returned to the U.S. to

earn a bachelor's degree at the University of Santa Clara and a master's degree at Stanford. And for one year I studied rocket propulsion at Princeton as a NASA Fellow."

In 1960, the state-owned Norwegian Broadcasting Company (NBC) was looking for a suitable television commentator to discuss the launch and orbit of the world's initial weather satellite.

Major Tandberg went "on camera" and landed the job.

### Steady Performer

Since that time he has served as a commentator on all space exploration activities for the NBC, a task that may take any time from a few minutes to more than 15 hours, as was the case with a recent Apollo mission.

Major Tandberg is one-half of a special team covering such events. His associate, a journalist, handles "color" while the major concentrates on the technical side.

Over the past decade, Major Tandberg has become one of Norway's top authorities on space exploration and his face is known to people throughout his homeland.

"This is both good and bad,"

he says. "It is always nice to be recognized, but it can also play havoc with my family's privacy."

Walt Byers worked for an extended period as Northrop representative in Norway and is high in his praise of Major Tandberg's poise before the cameras.

"Erik is a natural for this. He is relaxed. He has a knack for taking highly technical topics and breaking them down so everyone can understand what is happening," Mr. Byers said. "He uses models and other props to a maximum advantage."

In its normal telecast of Apollo missions, NBC transmits actual audio and video signals, originating in the United States. These signals are received from a communications satellite. Thus, viewers hear what is happening in English. Major Tandberg and his associate break in for explanations in their native tongue from time to time to maintain continuity.

Shortly after he began working in TV, Major Tandberg found he was in demand as a lecturer and speaker on space topics. He now handles 60 or more speaking engagements each year throughout Norway.

## Former Aquanaut Lends A Hand in Cold Water Tests

William Armstrong, a former Navy aquanaut, took leave from Northrop's Ocean Simulation program, to participate in a 23-day series of cold water experiments for the U.S. Navy.

Purpose of the experiments was to measure the amount of heat loss from breathing cold gas in deep water. The tests were carried out in simulated depths up to 1,000 feet of sea water in a pressure chamber at Annapolis, Maryland.

While a diver can largely maintain skin temperature with heated suits, he still loses considerable heat through breathing. It is possible to reach the point where respiratory heat losses alone exceed the amount of heat naturally generated in the body. This is important since at this point a diver's core temperature drops and he quickly becomes chilled.

Mr. Armstrong was selected for the experiments because of his previous work as a Navy aquanaut. He was a member of the third team for the Navy Sealab III program. He became interested in deep sea diving from reading as a child. Later he joined the Navy and then attended the service diving school. He left the Navy after 10 years' service at the conclusion of the Sealab program. He is now a diving systems engineer with the Electro-Mechanical Division, designing systems for the Ocean Simulation Facility at Panama City, Florida.



LOUIS VEERKAMP, Electro-Mechanical, displays the 231½ pound marlin he caught 12 miles northeast of Catalina Island. The marlin is the largest weighed in at Newport Beach in the last three years and one of the largest ever taken on a 30 pound line. Mr. Veerkamp, right, fought the big fish for three hours and 45 minutes before landing him. Shown with the champion fisherman is Capt. Milt Shedd, of 35-foot sport fisher "Sea World" and his wife, left, and Irv Shedd of the Electro-Mechanical Division's Product Engineering. At right are Mr. Veerkamp's wife, children and a friend. Mr. Veerkamp plans to have the fish mounted for his den.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- Continental**, 1966 2-dr. h/top, \$1,400. 213-376-3790.
- Buick**, 1964 Riviera, p/s, p/b, a/c, \$1,250. 213-325-8621.
- Volkswagen**, 1967, AM-FM radio, \$945. 213-375-2789.
- Truck, GMC**, ¾-ton, \$700. 213-370-6896.
- Plymouth**, 1970 Roadrunner, 383 eng., 4-spd., r/h, \$1,895. 213-644-7906.
- Mustang**, 1969 GT351, 4-spd., 3.55:1 posi, new tires, batt., \$1,950. 213-376-8102.
- Volkswagen**, 1969, new brakes, tires, batt., \$1,000 mi., \$1,300. 213-696-0787.
- Station Wagon**, 1959 Ford, V-8, \$150. 213-676-4766.
- Pickup**, 1968 Ford F-100, a/c, V-8, \$1,850. 213-425-3428.
- Renault**, 1968 Rio, radio, \$900. 213-831-5304.
- Mustang**, 1970 Boss 302, Cyclone Mallory Mitchell, 3.90 posi., 15K, \$3,000. 213-675-7443.
- Datsun**, 1969 sedan, 17,000 mi., \$1,300. 213-372-5367.
- Opel Rallye**, 1971, 2-dr., 4-pass. sport cpe., auto. trans., 90 h.p., front d/brks., coil sprgs., AM radio, 10,500 mi., \$2,175. 714-833-3297.
- Buick**, 1966 Wildcat, custom convt., full pwr., 445 eng., flight pitch trans., \$1,100. 714-828-2856.
- Toyota**, 1969 Corona, 4-dr., auto., r/h, \$1,395. 714-828-2857.
- Buick**, 1966 Wildcat, new tires, brakes, p/s, a/c, many extras, \$1,200. 213-674-2278.
- Pontiac**, 1968 LeMans, 2-dr., V-8, a/c, \$1,695. 805-495-6683.
- Buick**, 1961 Electra 225, 4-dr., r/h, air, all power, \$375. 213-325-9248.
- Rambler**, 1965 4-dr. American 440, auto. trans., r/h, \$575. 213-347-4087.
- El Camino**, 1959, \$650. 213-676-0935.
- Volkswagen**, 1964, radio, 53,000 actual mi., \$625. 213-675-2331.
- Volkswagen**, 1967, \$775. 213-263-0057.
- Chevrolet**, 1965 Impala Super Sport convt., 395 turbo eng., \$850. 213-675-6081.
- Pickup Truck**, 1969 Datsun, 7,000 mi., \$1,175. 213-757-6806.
- Chevrolet**, 1968, & overhead camper, 8½/2, 6 cyl., stick shift, \$2,800. 213-542-3465.
- TR3A**, 1960, \$450. 213-833-9829.
- Lincoln**, 1966, 2-dr. h/top, a/c, full power, \$1,325. 213-830-6163.
- Grand Prix**, 1967, 67,000 mi., min. bid \$995. Credit Union ext. 1117.
- Cadillac**, 1959 Coupe de Ville, a/c, full power, \$225. 213-674-8642.
- Jaguar XKE**, 1964 convt., chrome wires, extras, \$1,895. 213-534-4420.
- Ford**, 1934, 5-window cpe., 289 c.i.d. eng., auto. trans., \$1,500. 213-832-6394.
- Mustang**, 1967, 289 eng., r/h, a/c, p/s, \$1,300. 213-833-0742.
- GTO**, 1965 Pontiac, r/h, 4-spd. trans., 2-dr. h/top, mag wheels, \$750. 213-781-7418.
- International Scout**, 1970, travel top, 4-spd. trans., low mileage, 4-whl. dr., Warn hubs, \$3,000. 213-835-0805.

## Miscellaneous For Sale

- Bicycle**, Schwinn, girl's 3-spd., \$20. 213-329-2842.
- Walker**, \$7.50. 213-674-0852.
- Kitchen Set**, round table, 2 ext. leaves, 6 chairs, \$40. 213-943-8187.
- Radio**, Grundig Majestic, mod. 3160, all bands, 12" remote spkr., \$50. 213-675-6016.
- Door**, garage-boat, 8' wide, all hardware, \$25. 714-968-1539.
- Hide-A-Bed**, Simmons, white naugahyde, opens to dble. bed, \$65. 213-679-2864.
- Vacuum Cleaner**, Eureka, tank-type, all access., \$10. 213-370-9124.
- Air Conditioning Unit**, Sears, for auto., complete, \$50. 714-847-5938.
- End Tables**, commodes, matched pr., 26", walnut w/Never-Mar, \$20 ea. 213-541-3000.
- Guitar**, elec. & amplifier, 10 W., \$65. 213-377-5089.

## Miscellaneous For Sale

- Windows**, 8 wood, 24" x 36", \$2 ea. 213-379-4517.
- Playpen**, used 1 wk., \$20. 213-325-3995.
- Camera**, Petri 7S, 35mm, f2.8, w/aux. lens, telephoto & wide angle, \$40. 213-671-1815.
- Sloop**, Snipe by Varalyay, 16', fiberglass, north sails, custom trailer, fully equipped, \$890. 213-375-7168.
- Rifle**, custom Jarment, cal. 220 Swift, equipped w/Lyman 8-power target-spot scope, maple stock, \$175. 213-430-8400.
- TV**, b&w, 12" portable, VHF & UHF, \$45. 213-676-7666.
- House**, 2-bdrm., w/sep. 1-bdrm. cottage, lge. R-2 lot, near Prairie & 104th St., \$950 dn. & owner will carry first trust deed, \$19,000. 714-826-5489.
- Car Bed**, baby's, w/infant seat & bassinet mattress, \$15. 714-523-5304.
- Piano**, Hampton upright, \$250. 213-379-7853.
- Washer**, Fridgidaire, w/dryer, Kenmore elec., \$100. 213-542-8802.
- Wig**, 100% human hair, blond, shoulder length, \$20. 213-370-9037.
- Boots**, Iowa hvy. duty German climbing & hiking, size 9½, \$25. 213-645-1075.
- Juicer**, Oster, \$18. 714-894-6365.
- Stove**, apt. size, 4-burner, \$30. 213-530-5076.
- Target Pistol**, Ruger Mark V, .22 cal. bull bbl., 2 clips, \$65. 213-327-4585.
- Manifold**, dual intake, 50% h.p. increase for 40 h.p. VW eng., \$25. 213-821-4180.
- Piano**, Wurlitzer, \$350. 213-328-5171.
- Motor**, 35 h.p. Evinrude, long shaft, elec. start, brass prop., many extras, \$295. 213-378-2609.
- Refrigerator-Freezer**, Amana 22, side-by-side w/ice-maker, \$300. 213-377-7670.
- China**, Noritake gold art pattern, over 100 pcs., 12-place setting & servers, \$175. 213-376-4831.
- Saxophone**, 1 tenor, Noblet, \$150. 213-423-1363.
- Dining Table**, antique, round, oak, 3 leaves, \$125. 213-375-9340.
- Drafting Board**, 3' x 5' w/4" Bruning straight edge, \$20. 213-323-8797.
- Cabin**, in Silverado Canyon, new dble. gar. & mobile home, on 2 lots, landscaped, furn. or unfurn., \$18,000. 213-424-7351.
- Cocktail Table**, maple, dropleaf, \$20. 213-532-6175.
- Flash**, electronic, Ultrablitz Meteor SP, KX II Guide No. 80, \$35. 213-867-5809.
- Desk-Chair**, maple, student, \$20. 714-826-0345.
- Unicycle**, w/poles, \$15. 213-378-1863.
- Bedroom Suite**, 6-pc. twin, \$65. 213-377-5936.
- Chalet**, Club San Moritz, Crestline, 1,400 sq. ft., furn., 1-¾ baths, sleeps 11, lot approx. 100' x 100' on corner, 80' concrete d/way, fully landscaped, \$34,750. Box 1701.
- Sailboat**, Cal 20, new running rigging, \$2,450. 213-393-3635.
- Aircraft Kit**, BD-5 Micro, priority No. 42, \$1,600. 213-374-2915.
- Bolts**, assorted sizes, 40¢ a lb., or 3 lbs. for \$1. 213-324-4648.
- Motorcycle**, 1970 Honda CB 350, \$550. 213-325-3057.
- Pool Table**, 7', 1 yr. old, \$150. 213-375-0813.
- Dinette Set**, China closet w/matching table, 4 chairs, solid oak, \$195. 213-324-7257.
- Chord Organ**, Magnus elec., 12 chords, legs, seat & music books, \$10. 213-671-1617.
- Dryer**, elec., Maytag, mod. DE 606, 5 yrs. old, \$90. 213-327-6561.
- Tires**, 2, & wheels, snow treads, glass belted, size H-70-14, fits Chrysler or Ford, \$50. 213-823-8694.
- House**, 3-bdrm., den, liv. rm., patio, bltins, 2 baths, \$33,000. 213-830-5284.
- Punch Set**, 20-pc., lge. cut glass bowl, \$5. 213-645-7972.
- Sofa Bed**, Riviera, gold, converts to 2 singles or dble. bed, used twice, \$30. 213-374-7625.
- Port-A-Crib**, \$15. 213-645-8004.
- Travel Trailer**, 16', new tires, stove & ice-box, \$300. 213-545-2826.
- Piano**, Wurlitzer console, walnut finish, w/bench, \$750. 213-377-5781.
- Typewriter**, Underwood, standard, \$45. 213-676-4464.
- Travel Trailer**, 1971 18' mobile traveler, self-contained, a/c, complete, \$2,600. 213-534-0239.
- Ski Boots**, child's size 1, seldom used, \$5. 714-523-5315.
- Home**, 2-bdrm., G.I. resale, 6% loan, Inglewood, \$22,000. 213-673-2033.
- Bookcase-Desk**, Never-mar, 7' long, \$40. 213-865-1939.

# Know Your Industry

In describing its Boeing 747 superjet as "One Big Bird," Delta Air Lines points out that the passenger capacity of one of its 747s is "two and one-half times that of our nine-airplane fleet in 1941. In fact, the capacity of our three 747s surpasses, by over 120, the seating of the 29 airplanes in our fleet of 1950."

\* \* \*

If your car gets 15 miles to the gallon, you could drive 18 million miles, or around the world about 400 times, on the propellants required for the Apollo-Saturn lunar landing mission. The Saturn V vehicle contains 5.6 million pounds, or 960,000 gallons, of propellant.

## Miscellaneous For Sale

- Mobile Home**, 55' x 10', w/expando 13' x 8', redwood storage 7' x 5', awnings, cooler, extras, in Torrance adult park, \$5,500. 213-320-2512.
- Bunk Beds**, complete w/bed boards, Salem maple, \$25. 213-675-8813.
- Pool**, 10' x 3' deep, filter, all access., \$45. 213-542-5241.
- Boat**, 16' Glaspar, Johnson motor, 75 h.p., hvy. duty trailer, boat cover & all equipment, \$1,300. 213-329-7447.
- Sailboat**, 8' fiberglass racing Sabot, sand dolly, full rigging, \$275. 714-527-3554.
- Roll-top Desk**, student's modern, \$45. 213-835-9330.
- Snow Chains**, unused, fit lge. sizes, \$5. 213-679-1631.
- Volkswagen Tent**, never used, stands alone or attaches to sliding door van, \$100. 213-320-4349.
- Car Carrier**, \$175. 213-534-3410.

- Mini-Bike**, Trail 70 Honda, \$225. 714-635-2539.
- Condominium**, 1,400 sq. ft., 2-bdrm., den, 2 baths, all elec., sub-parking, many extras, 10 mins. to Hawthorne, \$30,500. 213-674-1400.
- Stove**, Magic Chef, 3-burner, w/thermostatic oven control for camper or trailer, avocado green, \$60. 213-675-6532.
- Camper**, 8½/2', full cabover, incl. jacks, dolly, awning & intercom sys., \$850. 213-325-2292.
- Fry-Pan**, elec., Sunbeam, \$10. 213-676-3050.
- House**, 2-bdrm., extra wide lot, 60x141, room for 2 units in rear, \$21,000. 213-671-6692.
- Living Room Set**, 6-pc. Danish modern, black w/white naugahyde, some access. \$25. 213-831-1745.

## Wanted to Buy

- Refrigerator**, reasonable. 213-375-4314.
- Motorcycle**, Yamaha 90 Enduro. 213-378-4422.
- Floor Jack**, 2-ton, hydraulic, in good condition. 213-756-9697.
- Sewing Machine**, Singer Golden Touch & Sew, mod. 750 preferred. 213-672-2370.
- Utility Trailer**, approx. 4 x 8 or 4-bike motorcycle trailer. 213-834-9205.
- Car Rack**, suction cup-type. 213-379-9202.
- Drone Propellers**, will pay \$5 ea., must be in good condition. Box 1702.
- Bicycle**, old or wrecked Sting Ray, to repair for needy children. 213-430-4407.

## Free (To Be Given Away)

- Kittens**. 213-645-1489.

## Rentals Offered

- Apt**, 1-bdrm., Redondo Beach, 3 blocks to ocean, \$140. 213-831-0453.
- Apt**, singles, lge. kitchen, all utils. paid, \$110. 213-675-7125, 213-323-9134.
- Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.
- House**, Bass Lake, \$150 wk. or \$45 w/end. 213-374-3702.
- Cabin**, Green Valley Lake, \$65 wk. 213-320-2002.
- House**, 3-bdrm., 2 baths, w/f/place, cpts., dps., fenced yd., Garden Grove area, \$245 mo. 213-860-3022.
- Cabin**, Lake Arrowhead, north shore, 200 feet from lake, pvt. dock, \$120 1 wk., \$200 2 wks. 213-375-2255.
- Motor Home**, 1971 Pace Arrow, 20', sleeps 6, a/c, radio, self-contained, fully equipped, insurance, \$150 wk., \$50 w/end, 5¢ mile. 714-846-1858.
- Condominium**, Mammoth Mountain, sleeps 4, complete kitchen facilities, pool, \$40 w/end, \$80 wk. 213-785-1405.
- House**, unit, 3-bdrm., newly redecorated, 2 baths, cpts., dps., closed gar., near Northrop, children OK, \$215. 213-675-7938, 213-644-3344.

## Rentals Offered

- Apt**, unfurn., 2-bdrm., 1½ bath, cpts., dps., all elec., big balcony, dble. gar., 1 block from Aircraft Div., \$185 mo. 213-644-1763, 213-644-0387.
- Apt**, 1-bdrm., bath, N. Hollywood area, near Valley Center, Laurel Canyon Dr., \$115 mo. 213-329-1861.
- Mobile Home**, Vogue Manor, Hemet, call collect, \$56 mo. 714-927-2811, 714-544-7240.

## Child Care

- Child Care** offered, lunches, fenced yard, close to Northrop. 213-644-8577.

## Lost

- Money**, \$200 cash, clipped together w/paper clip, at Northrop, reward. Box 1703.

## Found

- Mechanical Drawing Pencil** in Eng. Science Center, give proper description to claim, ext. 1647.

## Personals

- Want To** share rides from Huntington Beach 7 a.m. to 3:42 p.m., Aircraft ext. 1468.

I wish to express my sincere appreciation for the generosity & kindness extended at the recent death of my son, John C. Green. MRS. ORLENA GREEN.

Our sincere thanks to all of Plant Maintenance & Construction for the kindness & thoughtfulness at the recent passing of my father, Frank. FRANKLIN WEITZEL FAMILY.

I wish to thank all my friends for their cards & well wishes during my illness. JOHN HOLMAN.

**Ride Wanted**, 7:30 a.m. to 4:12 p.m., Centinela & Hazel or Centinela & Florence, Inglewood. Aircraft ext. 1191, 213-674-4563.

**Thanks** to all my dear friends for the cards & lovely flowers that brightened all my days in the hospital & at home. MARIE TULLY.

**Would like** to share my horse stabled in Rolling Hills, English or western experienced rider, \$30 mo. 213-370-7904.

**My sincere thanks** to my many friends at Northrop for the lovely remembrances of cards & flowers during my recent hospitalization. RITA HARRIS.

**Thanks** to my many friends at Aircraft Div., for the kindness & sympathy extended with the passing of our beloved wife & mother, Martha Osborn. STANLEY OSBORN, JUDY GETTINGER & FAMILY.

**Thanks** to my friends who were so generous with gifts & good wishes upon my retirement. CASH STALL.

**We wish** to express our sincere gratitude to all our friends at Northrop for their sympathy & contributions to the Hawthorne Community Center for needy children. HERBERT & KATHLEEN EDWARDS.

**Typewriter** wanted for disabled person, call Aircraft ext. 6454.

**Ride** wanted home at 4 or 4:12 p.m. from Plant I to Manhattan Bch. near Marine & Meadows on 21 St., AFPRO ext. 4573.

**Pilot Wanted**, instrument rated, to join flying group commuting to work between Orange County & Hawthorne airports. 714-544-5297.

## For Sale or Trade

- Cadillac**, 1962, 4-dr. h/top, new trans., a/c, p/w, p/s, p/b, \$450 or take trade-in for small car or 6-cyl. 714-523-5389.

# NORTHROP NEWS

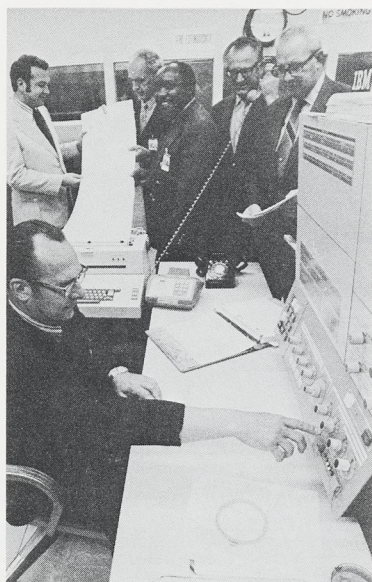
Vol. 29

No. 17

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Mailing address: Northrop News, 170/62, Northrop Corporation, 3901 West Broadway, Hawthorne, California 90250.





**LATEST COMPUTER TECHNIQUES** in accounting were personally reviewed by Ventura Division members of the Conejo Valley Area chapter of the National Assn. of Accountants and their president, Dan Cashier, standing, left, of the Northrop Corporate office. Eldie Lorentson is in foreground. Others are John Bonar, Willie Zachary, Denny Sherwin and Dick Tupper.

## Ruth Bolin Tops Suggestion List

Ruth Bolin came up with a better idea in circuit boards and earned a \$36 bonus in the Ventura Division's Suggestion Awards program in September.

Ed Keener and Isabel Wilson, who retired recently after 19 years with the Ventura Division, shared a \$30 award for an idea in the spot weld area.

Suggesting a tow bar adaptation in the use of the autoclave earned Tony Sotelo a \$29 award, while Jake Taddeo and Ray Volkmar each received \$25 for their suggestions.

John Wade and Marty Frank got \$15 apiece for their jointly conceived suggestion to consolidate paperwork to save time and money.

Earning \$10 each for their cost-cutters were Bobbie Sperry, Frances Cefaratti and Dan Beltran.

## LAS VEGAS TRIP

A few reservations are still available for the Recreation Club's weekend in Las Vegas Nov. 12-14. Cost is \$33 per person. Information can be obtained from Bill Dierker, ext. 550.

## ON KD2R-5 ASSIGNMENT

# Smith Ends 17-Month Tour in Iran

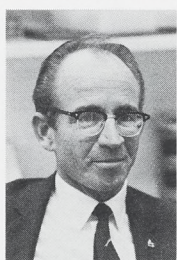
Another Northrop first — this one linking modern defense techniques with a rich ancient history — highlighted the 17-month stay of Ventura Division field representative Jack W. Smith in Iran.

Launching of a Northrop KD2R-5 Basic Training Target from the deck of the Imperial Iranian Navy's destroyer IIS Artemiz was the first firing of an aerial target from an Iranian ship.

The Imperial Iranian Navy has a proud heritage which began 2,500 years ago repulsing invaders from Iranian shores on the Persian Gulf and Caspian Sea.

"We launched three targets over the Persian Gulf," Mr. Smith recalls, "in exercises against the Seacat missile system."

Mission success was similar to that experienced by Mr. Smith in



working with the Imperial Iranian Air Force headquartered in the capital city of Tehran.

Mr. Smith's primary target activities in Iran

were with the IIAF flying Northrop KD2R-5's in exercises with ground-to-air missiles.

In his 16 years as a Ventura Division target specialist, Mr. Smith has been assigned to Ft. Bliss, Tex.; Germany, Italy, Ft. Huachuca in Arizona and numerous other U.S. locations with

## SHELLY GAINS IN GOLF STANDINGS

Roy Shelly moved closer to yearend victory in the over-all point standings as he shot a net 137 in the Ventura Division Golf Club's recent two-day tournament to win the A Flight.

Warren Sparks had a 142.88 for second and Al Hahn's 143.16 was good for third play at the Circle R Ranch in Escondido.

Bill Mulvihill shot 139.60 for first in the B Flight with Dave Cheney's 140.40 earning second and Don Peterson shooting 143 for third. Clara Cartis, Zeda Armstrong and Lois Sheridan were one, two, three, respectively, in the Ladies Flight.

Closest to the pin honors went to Mr. Cheney, Mr. Sparks, Mr. Hahn, Chuck Brune, Steve Garrity and Ross Ketchum. Mr. Cheney and Al Hammons had the longest drives.

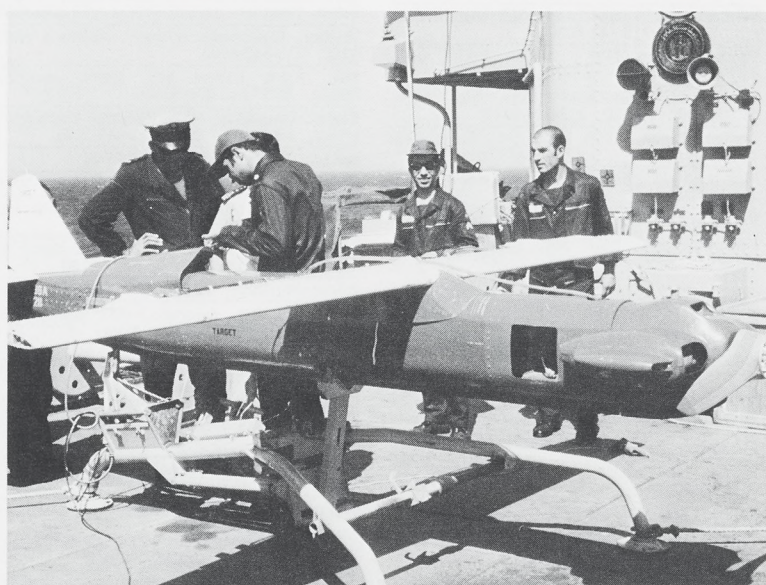
Army and National Guard units.

Mr. Smith enjoyed his assignment in Iran. With his wife he visited several sites of historical interest including Persepolis, the seat of the Persian Empire.

The ruins of Alexander The Great's conquest at Persepolis in 330 B.C. were visible reminders of the ancient history in which

modern, thriving Iran has its roots.

Northrop is deeply committed to aiding Iran's development. Page Communications Engineers is leading a consortium in establishing a communications network in the country and the F-5 is the backbone of the IIAF's air defense capability.



**IRANIAN CREW PREPARES FOR FIRST LAUNCH**  
Northrop KD2R-5 and two others marked historic first in shipboard firing.

## John Wells Gets Assignment As Q.C. Manager at Iran Aircraft

John Wells, a production manager at the Ventura Division, started his Northrop career in 1953 as a Quality Control inspector on the F-89 modification line of the Aircraft Division's Ontario facility.

By the first of November he'll be back in the Q.C. business with fighter aircraft. Only this time he'll be manager of Q.C. at Iran Aircraft Industries (IACI) in Tehran, Iran's Mehrabad International Airport.



Mr. Wells

Northrop holds a 49 per cent interest in IACI and Mr. Wells transferred to the Aircraft Division Oct. 1 for the lengthy assignment to Iran.

IACI is scheduled to become one of the major centers between Rome and Tokyo for maintenance, repair and overhaul of aircraft and engines, including the

Imperial Iranian Air Force's Northrop F-5's as well as commercial aircraft.

Mr. Wells has extensive Q. C. experience. After Ontario he went to Palmdale as Q. C. supervisor. He joined the Ventura Division as its El Paso Q.C. head in 1957 and transferred to Ventura proper as Q. C. group chief in 1961. He was named superintendent of Manufacturing in February 1967.

Active in many areas, he was president of the Management Club in 1970, is current president of the Conejo Valley Shrine Club and past-president of the Conejo Valley Investment Club, to name a few.

## AWARDS

(Continued from page 1)

### 10 YEARS

Lorraine La Frenaye.

### 5 YEARS

Alma Arroyo, Al Hahn, Dewey Herron, Doug Jourdain, Tony Mata, Jim Payton, Bill Quick, John Rowe and Pat Schlender.



# Gasich General Manager of Aircraft Division

General Manager Welko Gasich has assumed additional duties as general manager of the Aircraft Division in a shift of top management responsibilities an-



Mr. Gasich



Mr. Lloyd

nounced this month by President Thomas V. Jones.

F. W. "Bob" Lloyd, formerly

general manager of the Aircraft Division, has moved up to fill a new post as Northrop senior vice president for Operations.

Mr. Gasich will continue to direct Ventura Division activities as general manager.

Mr. Gasich also announced that John E. Evans, vice president of Production Operations, will be acting assistant general manager. Mr. Evans will have the full authority of the general manager's office when Mr. Gasich is unavailable.

In announcing the top level changes, Mr. Jones noted:

"Mr. Lloyd and Mr. Gasich have been responsible for many

of the company's major achievements and for much of its record of performance in recent years. We are making this move to give their talents for efficient and effective management broader application. We expect it to benefit all of our operations."

## Record Setter

Mr. Lloyd, a Northrop 30-year veteran, has guided the Aircraft Division for the past six years, establishing new industry records for production effectiveness. His introduction of modern manufacturing methods and new management techniques, and his program of new plant facilities and automated equipment have

built the division's reputation for performance in meeting rigid schedule, quality and cost commitments on a billion dollars worth of aircraft over a 10-year period, Mr. Jones said.

Mr. Gasich came to Northrop in 1953 from the RAND Corporation. From head of Preliminary Design he moved to a top management post of vice president for Engineering and assistant general manager of the Aircraft Division in just 13 years. In 1966 he was awarded a year's graduate work as an Executive Sloan Fellow at the Stanford Graduate School of Business. He assumed his post as Ventura general manager upon his return.

## NORTHROP NEWS

VENTURA DIVISION EDITION

Northrop Corporation, Los Angeles, California

Vol. 29, No. 18

November 1971

## Thanksgiving Holiday Set

Ventura Division personnel will enjoy a four-day weekend this month and a 10-day year-end holiday at Christmastime.

Thanksgiving Day, Thursday, Nov. 25, will be a paid holiday and so will the next day, Friday, Nov. 26. The latter is a Ventura "floating" holiday.

Ventura personnel will have a paid day off on Friday, Dec. 24, and all of the next week—six days of paid holiday—before returning to work on Monday, Jan. 3, 1972. The Northrop yearend holiday is virtually unique in the industry.

No work will be scheduled on these days, except for those employees who are required to perform essential tasks and meet production schedules.

## NEW OFFICERS

The new slate of the Ventura Division Management Club will be installed at the club's 16th annual dinner-dance on Friday, Dec. 3 at the Odyssey Restaurant in Mission Hills.

Dave Coe, chairman of the event, said more than 200 Management Clubbers and guests are expected to attend.

Area boosters will accept reservations until Wednesday, Nov. 24, Mr. Coe said. Assisting him in preparations for the gala are Mary Clerico and Doug Finch.



EXAMINING POSSIBLE SUGGEST-A-THON PRIZES  
Carole Rundgren, left, Machine Shop's Wally Brix and Diane Jacobs.

## Suggest-A-Thon Offers Gift Awards; Six Winning Categories Planned

Fifteen \$50 gift certificates will be given as a special pre-Christmas bonus to cost-conscious Ventura Division personnel who win in the Nov. 1 through Dec. 17 Suggest-A-Thon.

Winners will be selected in six categories at the end of the seven-week Suggest-A-Thon, explained Walt Claycomb, Ventura Suggestion Awards coordinator.

The categories include:

Highest Total Dollar Savings on any one suggestion; Most Man-hours Saved per one suggestion; Highest Material Dollar Savings per suggestion; Largest Quantity of Accepted Suggestions by the awards committee;

Best Quality Improvement in a suggestion; and Best Safety-oriented Suggestion.

In three categories the awards will be granted on the basis of one each for the Administration, Engineering, and Manufacturing Buildings, as well as best overall.

"This is a great opportunity for Ventura personnel to win a \$50 Sears gift certificate book," Mr. Claycomb said. "The certificates are in \$1 and \$5 denominations which may be used by the winners for merchandise of their choice up to \$50."

The certificates will be awarded with the usual cash awards.

## NEW POSTS FOR JACOBSEN, ORT

John R. Jacobsen has been named Mk 30 Program manager and Harold Ort will succeed Mr. Jacobsen in the role of manager of Program Planning at the Ventura Division.

In the new position, Mr. Jacobsen will report directly to Welko E. Gasich, general manager. He will be responsible for all management aspects of the Mk 30 Mobile Underwater Anti-Submarine Warfare Target System.

With Northrop since 1946, Mr. Jacobsen has held management positions in engineering, marketing and business planning at the Ventura Division.

Mr. Ort will be responsible for division business plans and development of new business for Ventura. He has been with Northrop since 1962. Mr. Ort reports to George C. Grogan, Jr., vice president of Product Development.



Mr. Jacobsen



Mr. Ort

## IDEAS EARN CASH

An idea saving time and working space earned the Tool Crib's Mel Turner \$76 in the Ventura Division's Suggestion Awards Program for October.

A \$74 award was shared by Bill Merrick and Cliff Mark. Ed Kephart and Ken Anderson also earned \$10 each for their ideas.



## Savings, Improved Capabilities Expected From IBM 370/165 Computer Acquisition

Northrop Corporation expects to realize substantial savings as well as benefits from improved capabilities in the processing of business and scientific data with a new IBM 370/165 computer system now being installed.

The value of the system is approximately \$5,500,000. Northrop is purchasing 60 per cent of this amount with the remaining portion of the equipment being rented from IBM.

The IBM 370/165 computer system replaces three computers, two IBM 360/65's and a 360/40, used by Northrop since 1966.

Installation of the new equipment and removal of the old equipment began last month in the NDP Operations Center at Hawthorne which serves all Northrop facilities in the Southland. Full operational status of the new equipment is expected by early December.

The computer will reduce NDP operating costs by more than three-quarters of a million dollars annually. Improved capabilities for business data processing, 34-digit precision for scientific calculations, faster performance and more magnetic storage capacity are other expected benefits.

Paul Wierk, NDP manager, cites flexibility as extremely important in the present day en-

vironment: "The new computer system is a viable piece of equipment in that the capability productivity may be increased or decreased by the addition or removal of components. This will enable NDP to more closely align the equipment configuration with the workload requirements which will result in minimizing equipment costs."

### It's Compact

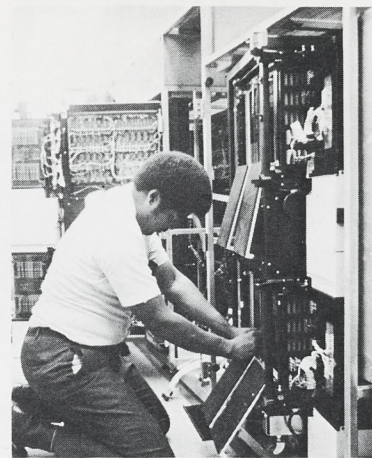
The IBM 370/165 is comprised of 60 individual units compared to approximately 100 units which made up the three replaced computers.

Five full-sized moving vans were required to truck the IBM 370/165 to Hawthorne. Installation requires three weeks of around-the-clock work progressing seven days a week. It requires special electrical power and has necessitated the installa-

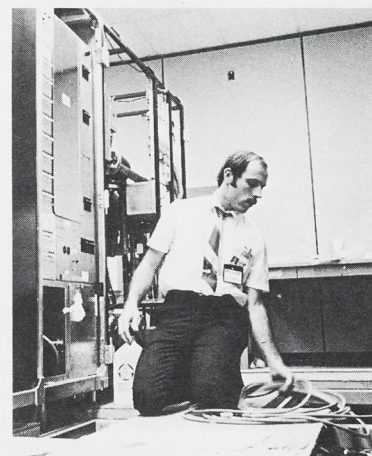
tion of a new motor generator converter unit connected directly to an Edison substation, all to minimize risks of power disruption. Special air conditioning and plumbing with 40-degree water is required to cool the central components of the computer system. Installation of the 370/165 also involves over 300 multiple cables installed under a raised floor to interconnect the component units and provide controls and necessary power.

Northrop personnel concerned with the computer have been phased through a series of special orientation sessions. Others are scheduled to follow.

This major improvement in data processing equipment is the third to be undertaken by Northrop in the past decade to keep abreast of the state-of-the-art and benefit from improvements in cost performance.



**INSTALLATION** of new Northrop computer required many hours, many people. Above A. B. Parker completes interior cabling task, while below is Jim McKnight working on cables connecting units.



## SOCIETY PICKS NORTHROP MEN

Northrop's Richard Schneidmiller and R. E. Herfert have taken on dual jobs with a local and national professional society.

Mr. Schneidmiller, Corporate Laboratories, becomes past president of the Southern California Society for Electron Microscopy. He will also serve as vice chairman of the 1972 national Electron Microscopy Society of America/Pan Pacific Conference.

Mr. Herfert, Aircraft Division, is new first vice president, physical sciences, for the local chapter and will act as program chairman for physical sciences at the 1972 meeting.

## RECORD CHECK

Northrop Credit Union statement of accounts were distributed recently along with auditor's account verification records.

Members who did not receive them are asked to contact John B. Knight & Co., 2926 Santa Monica Blvd., Santa Monica 90404. Queries should include the member's name, address, account number and mention of Northrop Credit Union.

## HAWAIIAN TOUR BRIEFING SET

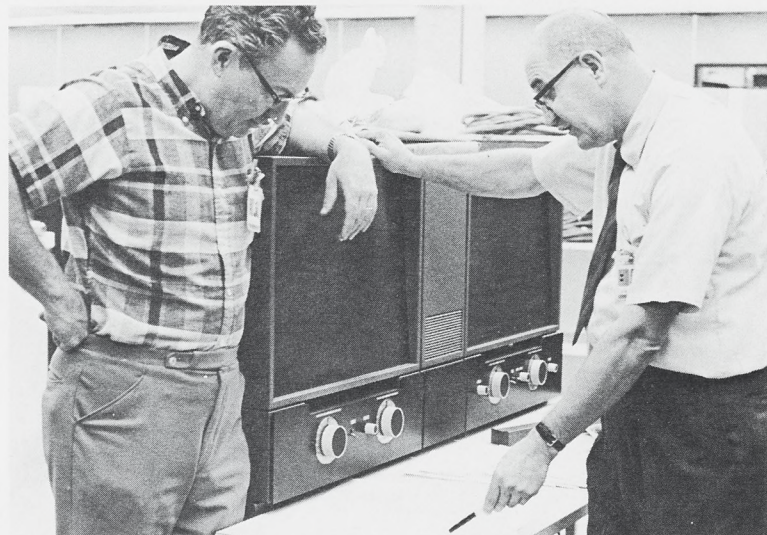
A final briefing meeting for the annual NRC "Hawaiian Holiday" is set for 8 p.m. Friday at Dandel's Restaurant, 12000 S. Western Ave.

Information, instructions and facts pertinent to the 10-day group tour of the islands over the long yearend holiday will be available. Questions will be welcomed.

The tour price is \$398 per person and the itinerary includes visits to four islands. Reservations will be accepted at Personnel Activities through Dec. 6.

## MOVED LATELY?

If you have moved or changed your mailing address recently, Northrop Personnel Records offices need your new address. Current addresses are important to insure receipt of company mail or W-2 tax forms to be distributed shortly after the beginning of 1972.



**RICH CARLSON, LEFT, JIM PINOSKI DISCUSS TASKS AT HAND**

## Jamboree in Japan Busy Time for Ayers

Donovan Ayers, son of H. W. "Bunky" Ayers, an engineer in the Electronics Division's Advanced Systems Department, recently returned from Japan where he attended the 13th annual Boy Scout World Jamboree.

During the three-week event, Donovan and the other boys in his troop had the opportunity to visit many parts of the country including Tokyo, Kyoto, Yokohama City and Mt. Fuji.

In an account of the troop's visit, carried in a bylined article in the South Bay Daily Breeze, Donovan wrote that each day of their stay was filled with activities, "from the opening ceremony where the parade of flags of 99 of the countries represented took

place, to the spectacular closing ceremony that ended with an unforgettable display of fireworks."

Donovan said that his troop played many types of games with their fellow scouts, held a joint campfire with some Japanese boys and participated in the Jamboree's Skill-O-Rama, a showplace where each troop does or shows something characteristic of its area.

"We were a little sad to have our big adventure end," he said. "We brought with us many memories not soon to be forgotten, some pictures and souvenirs of a beautiful and hospitable country, and, perhaps most important, some new friends."



The tenth Annual Report of the Northrop Employees' Savings Plans is presented below. Publication in the Northrop News makes the report available to all employees.

This report covers the cash transactions made during the fiscal year ended July 31, 1971, and during the period since the inception of the Salaried Plan on Feb. 1, 1962, and the Hourly Plan on Feb. 1, 1966. It also shows the condition of the Trust at the close of business on July 31, 1971, the values of the respective funds, the investments held as of that date and the unit values which have prevailed since the plans were started.

# Northrop Employees' Savings Plans Annual Report for 1971

## Summary of Transactions through 31 July 1971

	Fiscal Year 1971	Since Inception
<b>Cash Received:</b>		
From Salaried Participants	\$ 5,745,009	\$ 41,703,563
From Hourly Participants	1,120,227	6,883,486
Total Participant Contributions	\$ 6,865,236	\$ 48,587,049
From Northrop (50% Participant Deposits less forfeitures)	3,063,165	20,762,311
Total Contributions	\$ 9,928,401	\$ 69,349,360
From Sale of Bonds	5,542,396	24,439,434
From Sale of Stocks	10,638,890	31,156,830
From Income on Bond Fund Investments	720,959	3,236,998
From Income on Stock Fund Investments	481,321	1,945,758
From Income on Northrop Stock Fund	518,174	2,398,640
From Sale of Temporary Investment in Profit Fund		1,100,000
Total Cash Received	\$27,830,141	\$133,627,020
<b>Cash Paid Out:</b>		
For Purchase of Bonds (Including Accrued Interest Paid)	5,434,461	36,764,933
For Purchase of Stocks	12,452,773	50,333,448
For Purchase of Northrop Stock (156,600 shares during Fiscal Year 1971; 780,058 shares since inception)	3,370,067	23,295,364
To Participants on Withdrawal (in addition to 78,957 shares of Northrop stock during Fiscal Year 1971; 218,688 shares since inception)	6,607,208	23,039,141
Total Cash Paid Out	\$27,864,509	\$133,432,886
Balance	( 34,368)	194,134
Cash on Hand - Beginning of Period	228,502	
Cash On Hand 31 July 1971	\$ 194,134	\$ 194,134

## Summary of the Condition of the Trust at 31 July 1971

<b>Cash on Hand:</b>		
For Purchase of Bonds	\$ 30,855	
For Purchase of Stocks	74,129	
For Purchase of Northrop Stock	89,150	
Total Cash on Hand	\$ 194,134	
Interest Accrued on Bonds	177,623	
Dividends Declared but not Received on Stocks	9,637	
<b>Market Value of Investments:</b>		
Purchased with Participant Contributions:		
Bonds (Cost \$11,720,589)	10,311,887	
Stocks (Cost \$20,718,195)	23,812,963	
Purchased with Northrop Contributions:		
Northrop Stock (Cost \$15,908,026)	10,736,201	
Total Value of Trust	\$ 45,242,445	
<b>The Value of the Trust is Divided as Follows:</b>		
Participants' Savings Accounts:		
Bond Fund	\$10,520,365	
Stock Fund	23,896,729	34,417,094
Participants' Profit Account (Northrop Stock)		10,825,351
Total Value of Trust	\$ 45,242,445	

## INVESTMENTS AS OF 31 JULY 1971

BOND FUND	Face Amount	Cost	Market
Public Utility	\$ 2,676,000	\$ 2,680,246	\$ 2,222,022
Industrial	2,766,000	2,772,304	2,148,367
U.S.A. Government	1,519,000	1,511,101	1,471,722
Bank Finance	1,100,000	1,096,313	926,294
Federal Agencies	2,220,000	2,189,375	2,166,640
Foreign	367,000	360,250	265,842
Commercial Paper	1,111,000	1,111,000	1,111,000
	\$11,759,000	\$11,720,589	\$10,311,887
STOCK FUND	Shares	Cost	Market
American Airlines, Inc.	com 4,500	185,829	123,187
American Express Co.	pf 2,000	139,000	233,000
American Express Co.	com 6,000	354,960	699,000
American Electric Power	com 10,000	287,770	275,000
American Hospital Supply Corp.	com 20,200	442,693	714,575
ARA Services, Inc.	com 2,800	366,257	371,700
Avon Products	cap 6,600	358,494	633,600
Black & Decker Mfg. Co.	com 11,250	344,474	846,562
Burroughs Corp.	com 4,000	490,512	468,000

## STOCK FUND

	Shares	Cost	Market
Carolina Power & Light Co.	com 3,000	133,017	72,000
Citizens & Southern Natl. Bank of Ga.	com 10,000	226,820	320,000
Coastal States Gas Producing	com 5,000	258,050	243,750
Combined Insurance Co. of America	com 9,840	383,512	418,200
Control Data Corp.	com 5,000	580,252	252,500
Deere & Co.	com 10,500	459,662	462,000
Eastman Kodak Co.	com 6,040	349,759	456,020
Federated Department Stores, Inc.	com 18,000	624,181	783,000
Ford Motor Credit Co.	Demand Notes	987,000	987,000
General Electric Co.	cap 14,000	631,705	747,250
General Motors Corp.	com 11,500	851,091	882,625
Harcourt, Brace, Jovanovich	com 2,800	238,144	111,300
Harris-Intertype Corp.	com 6,000	373,140	301,500
Hewlett Packard	com 1,200	59,293	46,200
Hyatt Corp.	com 10,400	299,475	254,800
Illinois Power Co.	com 2,100	80,611	72,188
International Business Machines Corp.	cap 2,606	455,817	758,997
International Nickel	com 20,000	787,251	662,500
International Paper Co.	com 10,000	342,510	322,500
International Tel. & Tel. Corp.	com 17,000	904,947	1,054,000
Johns Manville Corp.	com 10,000	398,311	407,500
Johnson & Johnson Co.	com 12,000	223,609	1,128,000
Kansas City Power and Light	com 6,000	205,360	203,250
Kentucky Utilities	com 20,700	578,674	527,850
Merck and Co.	com 5,000	523,426	513,750
Middle South Utilities, Inc.	com 7,600	184,960	181,450
Norton Simon, Inc.	com 10,554	500,492	567,277
Owens Corning Fiber Glass	com 3,000	118,680	130,125
Owens Illinois, Inc.	com 9,000	653,155	510,750
Pennsylvania Life Co.	com 9,400	357,350	307,850
Perkin-Elmer Corp.	com 8,000	353,842	366,000
Polaroid Corp.	com 3,046	338,505	304,981
Public Service Electric and Gas	com 3,000	80,250	80,250
Reynolds Metals Co.	com 6,200	254,553	143,375
Sanders Association, Inc.	com 10,000	464,241	116,250
Schering Corp.	com 10,000	549,110	822,500
Schlumberger, Ltd.	cap 7,500	279,752	1,041,563
Southern California Edison	com 3,300	109,992	108,488
Southern Co.	com 5,000	137,963	108,750
Standard Oil of New Jersey	com 5,000	385,846	382,500
TRW, Inc.	com 7,200	238,075	253,800
Union Oil Co. of California	com 5,000	282,408	162,500
Wickes Corp.	com 10,000	375,105	425,000
W.T. Grant Co.	com 10,000	473,447	625,000
Xerox Corp.	com 7,300	728,991	821,250
		\$20,792,323	\$23,812,963

## PROFIT FUND

	Shares	Cost	Market
Northrop Corporation	561,370	\$15,908,026	\$10,736,201

## HISTORY OF UNIT VALUES

Valuation Date	Bond Fund	Stock Fund	Profit Fund
7/31/62	\$ 1.00678	\$ .82673	\$ .84299
7/31/63	1.07228	1.03982	.74533
7/31/64	1.12346	1.25478	.64951
7/31/65	1.18096	1.31530	1.05750
7/31/66	1.12924	1.38824	.97052
7/31/67	1.17227	1.78819	1.78347
7/31/68	1.17991	1.98598	1.62488
7/31/69	1.14589	1.94687	1.48373
10/31/69	1.14634	2.22865	1.65253
1/31/70	1.11300	1.97274	1.14087
4/30/70	1.14421	1.78880	.86877
7/31/70	1.14710	1.66295	.73156
10/31/70	1.18240	1.83839	.75679
1/31/71	1.32315	2.16332	1.13340
4/30/71	1.26402	2.44196	.99509
7/31/71	1.31717	2.29024	.82760

The complete annual report of the Trustee is available for inspection, during regular first shift hours, in the Industrial Relations Office serving your facility.



## Murphy Turns Old Mail Van Into A Rolling Home

When M. G. "Murph" Murphy saw the price tag on a new camper, he decided to see what he could do about building one himself.

He began by buying a surplus U.S. mail van for \$400, a \$2 ice box at a surplus sale, and such odds and ends as pipe, paneling and foam rubber.

So for less than \$500, plus lots of work which he insists is really fun, he has converted the van into a camper that is a head-turner everytime he drives it to work at Anaheim.

He fitted the inside with windows, overhauled the back to make a door, fitted four bunk beds made of pipe and covered with foam rubber, and added a chair, rug, wall paneling, and cabinets. Under the bunks are food storage boxes stocked "for a quick getaway when I get the urge."

Mr. Murphy did all the work himself, except for the painting. The basic painting was done by

his father-in-law. And his mother-in-law decorated the sides with extremely clever cartoons depicting members of the Murphy family as birds perched on a tree limb.

"I had a lot of fun building the camper," Mr. Murphy reports. "The fact that the original mail van had 94,000 miles on it hasn't been a liability either. It now has 111,000 and hasn't caused any trouble at all."

Although he uses the van constantly, it is not finished, and probably never will be. He keeps adding and subtracting to improve comfort and convenience.

His next project is to replace the bunks with two double beds, and then he intends to add a bathroom.

The name of the van? Considering its former uses as a mail truck and the nationality of its present owner, what else but "Irish Male."

Mr. Murphy is in Logistics at the Electro-Mechanical Division.



M. G. MURPHY AND HIS 'IRISH MALE' CAMPER

## They Met on Hawaiian Tour, Wed, Now Retire Together

An NRC Christmas tour to Hawaii seven years ago is the reason there was a double retirement party at the Aircraft Division recently.

The party was for Margaret and Mike Bartmus, who closed out their Northrop careers with 26 and 20 years, respectively, of work with the company.

Seven years ago Margaret was working in Correspondence Control and Mike was with Maintainability. Although he often came to her department to pick up work, somehow they never met.

Anyway, the stranger-neighbors both joined the NRC Holiday Tour in 1964 and first met 1,900 miles from home in Hawaii. Margaret, a widow, and Mike, a widower, discovered that they had missed something by not having met before. They were married soon after their return.

### Northrop Recommended

Mrs. Bartmus joined Northrop in 1945 because a neighbor who had worked for Northrop during the war had recommended the company as a good place to work.

Mr. Bartmus came to the Air-



### TAKE FIVE

Terri Kennedy relaxes in a wheelchair during a break in the filming of "The New Doctors." Seated in the background is television star E. G. Marshall.

## Silent TV, Movie Roles Earn Plaudits for Trio

Without saying a word, the children of John Kennedy have established themselves as veteran television and motion picture performers.

Over the past year the young thespians — Terri, 9, Kevin, 8, Alfreda, 6 — have won silent roles as extras in a number of top-rated shows.

Some of their credits are "Marcus Welby, M.D.," "Columbo," "McCloud," "The New Doctors" and "Walt Disney World." In addition, Alfreda will be appearing in the soon-to-be released movie, "Gidget Gets Married," and Terri is appearing in a current Pepsi Cola commercial.

Their father, who works as an offset pressman in the Reproduction unit, Electronics Division, said the children got their start in acting through a friend of his who works as a talent scout for a Hollywood casting agency.

"All I had to do was send the agency a photo of each child. As openings came up, my wife would take the children in for an interview.

"I had no idea, though, that all three of them would become so heavily involved in such a short period of time," Mr. Kennedy said. "Later, however, I found out that once a director becomes acquainted with children who are cooperative and well-behaved, he calls on them again and again."

The proud father readily admits that he and his wife are as enthusiastic as their children are about the entertainment industry — especially when they have the opportunity to visit the sets and meet with the stars.

"So far it has been a wonderful experience for the entire family," he said. "And, if nothing else, it has taught my children what I mean when I say, Silence is Golden."



MARGARET AND MIKE

craft Division 20 years ago. At the time he owned a service station, but found being on his feet so long was a strain. "I joined Northrop because I'd had several customers who worked at Northrop and they all told me there was no better place to work."

Upon retirement, the Bartmus' say they will stay in this area. "We have too many friends here to move," they said.

They also hope to get some traveling done. "In fact," Mr. Bartmus said, "that Hawaii trip seven years ago turned out so well, that we might join NRC for another one sometime."



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

Rambler, 1963 American, 49,000 act. miles, \$200. 213-370-9124.

Chevrolet, 1962 Nova II convt., \$300. 213-377-4251.

Chevrolet, 1955, 3-spd. trans., 292 eng., w/Sig Ericson cam, 4-bbl. carb., radio, \$650. 213-542-2638.

T-Bird, 1963 convt., sport mod., 48,000 mi., \$775. 213-675-4786.

Chevrolet, 1964 Impala, 2-dr., p/b, p/s, r/h, \$625. 213-542-2390.

TR 4, 1962, \$250. 213-360-0470.

Volkswagen, 1968, sun roof, \$995. 213-757-4646.

Chevrolet, 1965 Impala Super Sport, a/c, full power, \$750. 213-377-7670.

Subaru 360, 1971, under 300 mi., 60 mpg, \$800. 714-826-2007.

Lincoln, 1965 Continental, many extras, \$1,500. 213-679-1179.

Buick, 1965 Skylark, 2-dr. h/top, auto., r/h, a/c, \$625. 213-542-3459.

Firebird 400, 1969, 26,000 miles, \$2,500. 213-676-7272.

Mustang, 1967, 289 eng., auto., r/h, p/s, air, \$1,195. 213-833-0742.

Chevrolet, 1970 Malibu spts. cpe., a/c, power s&b, radio, 300 h.p. 350 cu. in. V-8, \$2,995. 714-879-4273.

Mustang, 1966, 6 cyl., stick shift, h/top, 2-dr., \$725. 213-532-7846.

Triumph, 1968, 650 cc, \$850. 213-376-3277.

Cutlass, 1962 F-85, convt., console 4-spd. trans., \$295. 213-377-3552.

Chevrolet, 1964, 2-dr., V-8, new eng., trans., \$700. 213-372-5880.

Volvo 142S, 1968, less than 30,000 mi., new d/brakes, 4-spd. w/overdrive, \$1,850. 213-675-4344.

Plymouth, 1969 GTX 440, auto., p/b, \$1,700. 213-675-4764.

Chevelle, 1968 Malibu sedan, 6-cyl., \$1,000. 213-377-7576.

T-Bird, 1962, \$350. 213-670-4702.

Chrysler, 1960 Windsor, 4-dr. sedan, new Sears Die-Hard batt., good tires, \$195. 213-324-1719.

Triumph 250, 1968, min. bid \$1,300; Bonneville, 67,000 mi., min. bid \$845. Credit Union ext. 1117.

## Miscellaneous For Sale

Picnic Table, redwood, 2 benches, \$10. 213-943-8187.

Rifle, Springfield M-1 Garand, 30-06 cal., 10 clips, approx. 100 rnds. of brass, \$100. 714-894-6365.

Pool Table, Sears full-size, cue sticks & balls, 6 yrs. old, \$50. 213-325-3995.

Box Trailer, lockable top, convt. for small boat, \$55. 213-375-7168.

Sewing Machine, National rotary elec., wooden cabinet, \$25. 213-376-4831.

Dinner Ring, ladies' diamond, never worn, \$175. 213-835-9330.

Rifle, 30.06 semi-sporterized, ammo, military type Mauser action, \$50. 213-530-5076.

Love Seat, gold brocade victorian, \$250. 213-832-3502.

Home, tri-level, 2,500 sq. ft., Southshores, P.V., 4-bdrm., 2 1/2 baths, dining, den, rumpus rms., bltin kitchen w/bkfst. bar, \$52,500. 213-831-3050.

Aquarium, 15-gal. Pemco w/hood, access., \$12. 714-962-4235.

Snow Chains for VW, 5.60-15, never used, \$10. 213-371-3615.

Sailboat, 15' Glen L 15, trailer, cover, \$700. 213-963-5524.

Wig, Brenda style, brown, short, synthetic hair, worn twice, \$12.50. 213-329-6748.

Stereo Hi Fi, Norelco solid state, 2 sep. spkrs., 6 w. ea., walnut, \$75. 213-673-0678.

Baby Buggy, collapsible, \$20. 213-322-2364.

Bed, dble., Spanish Mediterranean headboard, \$25. 213-379-4774.

Catamaran Sailboat, 14' Hobie, trailer, many extras, \$995. 213-397-5448.

Camper, 1969 cabover, 8 1/2', sleeps 4, 20 gal. water tank, 3-burner stove, 75 lb. ice box, \$600. 213-376-5156.

## Miscellaneous For Sale

Bedroom Set, Thomasville Shalimar, walnut & pecan, dble. bed, h/board w/frame, dble. dresser & mirror, 2-dwr. nightstand, \$250. 213-670-6090.

Auto Body, 1956 Chev. wagon, \$50. 213-379-1759.

Bumper Racks for motorcycle, \$10. 213-679-4863.

Motorcycle, 1970 SL 90 Honda, \$300. 213-377-5897.

Motorcycle, 1970 Honda Trail 90, licensed for street, \$300. 213-327-8927.

Motorcycle, Honda 50, tools, helmet, \$115. 714-633-5521.

Cement Mixer, 1 1/2 cu. ft. mix cap., Sears wheelbarrow type w/elec. motor, \$80. 213-377-5853.

Surfboard, 6' 10", \$95. 213-375-6397.

Stereo Theater, 1960 Magnavox, 21" b&w TV, AM-FM radio, changer, dk. mahogany, \$150. 213-721-6764.

Golf Irons, complete set, matched, Power Bilt, incl. wedge & Arnold Palmer putter, \$60. 213-324-3690.

Jackets, men's sizes 42 & 44, \$10 ea. 213-675-2772.

Knitting Machine, Knitking, 6 yrs. old, extras, \$150. 805-498-2307.

Golf Clubs, 4 woods, 10 irons, \$50. 213-454-1963.

Parakeets, 6 wks. old by Christmas, \$5. 213-378-3219.

Metal Lathe, 12" swing, w/access., \$400. 714-897-5874.

Coat, size 10, imitation leopard, dress length, princess style, \$25. 213-833-7819.

Dryer, RCA Whirlpool, elec., used 6 mos., \$30. 714-776-2620.

Motorcycle, 1971 SL125 Honda, \$450. 714-524-1376.

Home, corner, 2-story, 4-bdrm., 2 baths, cpts., dps., bitins, across from new Los Cerritos shopping center, \$32,500. 213-860-3022.

Piano, Gable-Nelson, walnut, spinet, bench, \$355. 213-541-1638.

Guitar, folk, \$30. 213-377-6648.

House, 2-bdrm., extra wide lot, 60x141, room for 2 units in rear, No. Inglewood, \$21,000. 213-671-6692.

Golf Clubs & bag, \$30. 213-376-6489.

Hardtop, for 1963-67 Corvette, \$150. 213-631-3008.

Washing Machine, Kelvinator, 6 yrs. old, \$25. 714-879-9616.

Organ, Wuritzer electronic, mod. 4150, 2 manual w/floor pedals & chord access., sep. mod. 45 Leslie spkr., \$850. 213-363-2113.

Mobile Home, 48' x 8, new awning & refrig., cpts., \$2,700. 213-973-1007.

Camera, 35 mm Yashica, f1.8, 1-1000 spd., coupled expos. meter, case, electronic flash, \$60. 213-375-6467.

Dryer, elec., Kenmore, copperstone, 2 yrs. olds, 220 V., \$75. 213-679-8534.

Umbrella Tent, 9' x 9', alum. supports w/canopy, \$20. 714-523-5315.

House, 3-bdrm., 2 baths, pool, assume 5 1/4% loan, \$24,450. 213-896-7235.

Acreage, 5 acres, Adelanto City, water & elec., \$100 dn., \$100 mo., \$10,000. 213-378-1026.

Dishwasher, Hotpoint Deluxe, portable, cutting board top, \$75. 213-863-3900.

Piano, upright, recently modern refinished, \$185. 213-696-7529.

Saxophone, tenor, Noblet, \$150. 213-423-1363.

Motorcycle, 1971 Yamaha Enduro 125, extras, \$435. 213-835-9149, 213-834-3163.

Refrigerator, \$5. 714-832-7014.

Tire, Goodyear custom wide tread, polyglas F70-14, belted, \$25. 213-371-5037.

House, 3-bdrm., dble. bath, patio, dps., bitins, \$33,000. 213-830-1216.

Mattress, king size, box springs, steel frame, \$125. 213-324-4845.

Mobile Home, 1970, 12 x 60, 2-bdrm., 1 1/2 baths, awnings, skirting, metal shed, many extras, \$6,900. 714-678-2542.

Pool Table, 9', w/thick slate, all access., \$495. 213-374-6584.

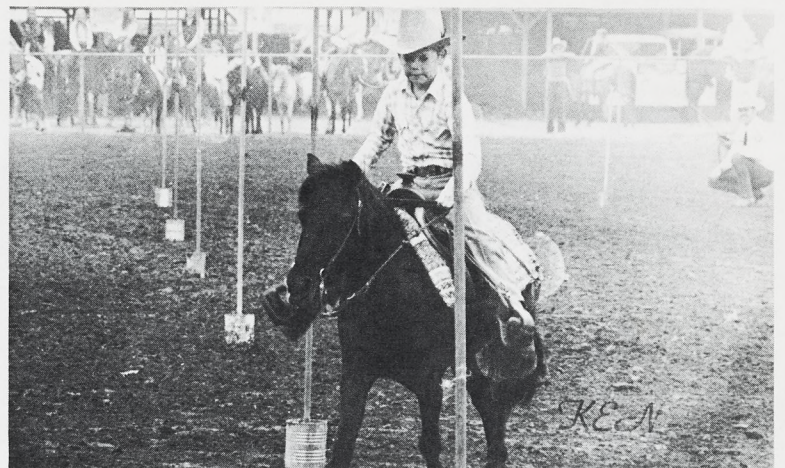
Surfboard, semi-gun, 6' 6", \$55. 213-823-1788.

Fish Tanks, 30, 20, & 5 gal., all equipment, \$40. 213-398-9100.

Bedroom Set, 12-pc., Mediterranean, \$500. 714-826-0109.

Telephoto Lens, 135 mm Komura, exacta mount, \$40. 213-323-8797.

Acreage, 10 acres, near new airport, Apple Valley, \$7,000 ea. 5 acres or \$13,000. 213-327-4356.



**TOMMY RILEY, 7, son of the Electro-Mechanical Division's Jerry Riley, circles final pole to take fourth in recent pole bending contest. He seeks to catch his sister, Kathy, the current state champion. The pony is named Smokey.**

## Miscellaneous For Sale

Trail Bike, Honda 55, new top end, trail sprocket kit, car rack, \$145. 213-374-4780.

Pups, collie, AKC, 8 wks. old at Christmas, \$75-\$125. 213-370-4475.

Motorcycle, 1969 Honda 350 street scrambler, \$495. 213-329-2842.

Harmonium, antique, cherry wood, \$195. 213-346-3751.

Shopsmith, Mark 7, some extras, \$300. 213-676-8791.

Pup, poodle, AKC, apricot, female, small miniature, \$75. 213-866-4104.

High Chair, Cosco, \$10. 213-676-6738.

Sewing Machine, cabinet model, elec., zig-zag & sewing discs incl., \$45. 714-772-3182.

Surfboard, Rick, 7' long, 18" wide, \$50. 213-374-8608.

Record Player, G.E., 4-spd., stereo, w/matching 100 album cap. stand, detach. spkrs., lifetime diamond stylus, \$85. 213-376-2725.

Mini Bike, Bonanza 1200, \$110. 213-675-0490.

Flotation Tires, set of 11.5 x 6, mounted on wide whls., fit VW dune buggy, \$90. 213-821-4180.

Stamp Books, Blue Chip, 30 books, \$2.50 ea. Box 1801.

Tape Deck, Muntz 4 & 8, converter, 25 tapes, carrying box, \$60. Box 1802.

Travel Trailer, 22' Santa Fe, self-contained, air cond., \$2,895. 805-498-6349.

Dog, 2 1/2 yr. old female, purebred, Australian shepherd & 8 mo. old pup, female, \$35. 213-378-1793.

Chain Saw, McCulloch, 250 series, 2 1/2 yrs. old, \$125. 213-679-5701.

Mini Bike, 3 h.p., \$65. 213-676-0666.

Bedsteads, twin, wood, dresser & night stand avail., \$125.00 ea. 213-377-5936.

Tape Recorder, Concord transistorized stereophonic 550, 3-spd. w/instant stop, 4-track stereo w/sep. vol. controls & VU meters, \$89. 213-679-2864.

Furnace, forced air, American Standard, nat. gas, 100,000 btu input, 3 yrs. old, little used, \$50. 714-871-7625, 714-879-4692.

Condominium, 1,400 sq. ft., 2-bdrm., den, 2 baths, all elec., sub-parking, many extras, 10 mins. to Hawthorne, \$29,900. 213-674-1400.

Cabin, modern, Lake Gregory, near lake & stores, terms, \$10,000. 213-821-8150.

Divan & matching chair, Kroehler, blue, \$60. 213-375-6114.

Fireplace, standing-type, 65" high, w/all hardware, screen & grate, \$200. 213-378-9660.

Console, Admiral, stereo FM-AM radio-phonograph, 6 matched, balanced spkrs., \$100. 213-323-5740.

Motorcycle, Yamaha, 1971 Enduro, 90 cc, \$350. 213-676-2854.

Door, 32" x 6' 8", \$4. 213-644-0003.

Dryer, Whirlpool, nat. gas, 25,000 btu/hr. \$40. 213-375-5316.

Skis, Hart 190's, Nevada toe, Solomon cable heel, \$50. 213-644-9257.

Baby Buggy, Hedstrom, converts to car bed or stroller, \$49.95. 213-534-0346.

## Wanted to Buy

Bicycle, boy's Schwinn. 213-676-6382.

Photographic stereo equipt., camera, projector, film mounting equipt. or supplies. 213-831-6533.

## Wanted to Buy

Dinnerware, Sango, boutonniere pattern, need replacements. 714-535-6228.

Hardtop, for 1968 Corvette convert. 213-326-7528.

Air Compressor, portable w/tank, elec. motor, 1 1/2 to 3 h.p., 115 or 220 V. 213-547-2057.

Fender Skirts, for 1941 Cadillac Fleetwood 60 Special sedan. 213-299-0938.

Corvair, 1963 Spyder. 213-374-3702.

Table, old, round, oak. 213-673-4322.

Bicycles, man's & woman's, 3 or 5-spd. 213-545-2577.

## Free (To Be Given Away)

Dog, white, male, pekingese, thoroughbred, all shots. 213-378-7846.

## Rentals Offered

Cabin, 2-bdrm., sleeps 8, Big Bear-Moonridge area, f/place, TV, bltin AM-FM radio, lge. kitchen, \$90 wk., \$40 w/end. 213-541-3000.

Cabin, Lake Arrowhead, no. shore, 200 feet from lake, pvt. dock, \$120 1 wk., \$200 2 wks. 213-375-2255.

Cabin, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.

Vacation Home, Lake Arrowhead, 3-bdrm., 2 baths, walk to lake, beach club privileges, \$140 wk., \$60 w/end. 213-377-3817.

House, 4-bdrm., 1 yr. old, 2,350 sq. ft., liv. & family rms., cpts., playrm., dps., heated pool, avail. in Jan., \$42,500 or \$395 mo. 213-860-9271.

Apt, 2-bdrm., Hawthorne, across from Aircraft Div., unfurn., water & garbage pd. \$140 mo. 213-675-7748, 213-676-4676.

House, 4-bdrm., 2 baths, cpts., dps., bitins, children o.k., dble. car gar., patio, fenced yard, \$275 mo. 213-329-6697.

Apt, 1-bdrm., ocean front, cpts., dps., utilities pd., Playa del Rey, \$185 mo. 213-823-5526.

Mobile Home Space, Vogue Mobile Manor, Hemet, \$56 mo. 714-544-7240.

Condominium, Mammoth Mountain, sleeps 5, complete kit. facilities, sauna, pool, rec. room, \$40 w/end, \$100 wk. 213-785-1405.

## Personals

My sincere thanks for your help & expression of sympathy during the prolonged illness & passing of my husband. BOB! ROTHROCK.

Disabled employee needs transportation to & from work from Santa Monica, 1st shift, Electronics Haw. ext. 432. 213-395-9285.

Share Ride, Woodland Hills & vicinity to Anaheim, 1st shift, Anaheim ext. 1056, 213-347-1712.

Share Ride, 8 a.m.-4:42 p.m., meet anywhere in Glendale or La Crescenta, Aircraft ext. 1006, 213-248-9654.

Anyone interested in 1 week ski trip to Park City, Utah, in February call 714-828-4853.

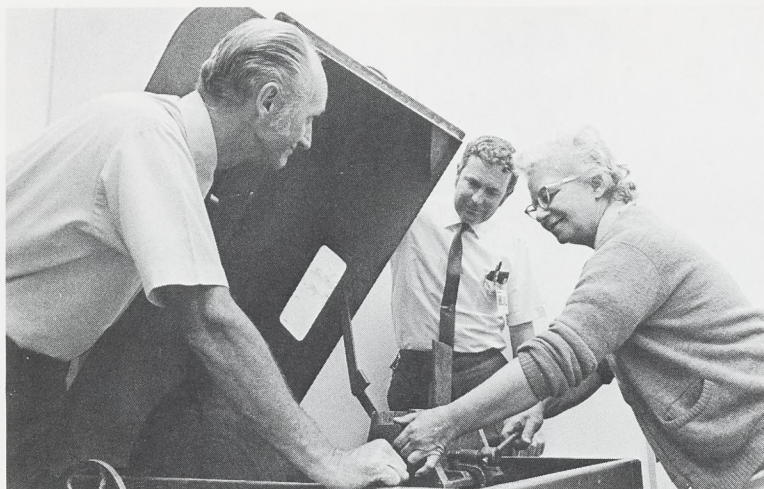
We wish to express our deepest appreciation to our many friends who made our retirement from Northrop such a happy occasion. MICHAEL & MARGARET BARTMUS.

My sincere thanks, NRC, for the lovely flowers. ANGELA BRANNFORS.

## For Sale or Trade

Fiat 1200, 1962 convt., \$450 or trade for small wagon of equivalent value. 213-633-2990.





GRINDING AWAY IN NEW FACILITY

Hal Hunsberger, left, and Bill Umbenhauer watch Rockhound Fran Rush.

## Newly Opened Recreational Facility Provides Adequate Room for Activities

The door is now open and activities are under way in the Ventura Division Rec Club's new facility adjacent to the Personnel office in the Administration Building.

Built entirely with Rec Club funds, the 600-square-foot facility provides a meeting room for the numerous Rec Club groups as well as a pool table, storage facilities, darkroom, and rock polishing area for the Rockhounds.

The central recreation room is in use at lunch time and after hours by various groups. Dick Raney, commissioner of the Pocket Billiards Club, for example, invites all interested pool shooters to join the club and take part in the noontime tournaments.

Adrienne Morse, Arts and Crafts commissioner, reports that the group is also taking advantage of the new facility at noon time. She urges everyone interested in ceramics work to join their activities.

### Lots Of Action

Getting good use is the Rockhounds' special work room with tools for grinding and polishing stones and gems. Not quite finished is the Camera Club's complete darkroom operation.

Highlights of the facility include availability of existing restrooms, adequate storage and work space for the many clubs, and the possibility of as-needed expansion. The Rec Club has been working to obtain a central facility since the move to The Conejo in 1963.

Hal Hunsberger is chairman of the Rec Club's Facilities Committee in charge of the operation. He has been assisted by Clyde Corder, Ventura Facilities; Chuck Simmers, the Rec Club's Industrial Relations representa-

tive; and Bill Umbenhauer, who was acting Rec Club president until the recent return of Bob Calhoun.

"We're very pleased with the facility and look forward to a variety of uses by the different clubs which effect so many Ventura personnel," Mr. Hunsberger said.

## No Worry for Shelly in Golf Club Tourney

The battle is on for the runner-up spots in over-all point standings in the Ventura Division Golf Club's remaining two tournaments of the year. Roy Shelly is far enough ahead not to worry.

Mr. Shelly didn't finish among the top in the October tournament at the Ojai Country Club but his 460 points put him well ahead of Warren Sparks with 355, Bob Jones with 330 and Chuck Brune at 300.

Bob Schaeffer won the A Flight at Ojai with a net 65. Dave Maher was one stroke back for second and Mr. Sparks had a 70 for third.

The B Flight was a real scrambler with less than .60 of a stroke dividing first and third. Gerry Myers eked out a 68.80 for the win. Bob Feakins handicapped at 69.34 to squeak by Charley Hass who had 69.40.

Zeda Armstrong's 77 took the Ladies Flight with Lois Sheridan garnering second with a 91 and Jaddis Martin third at 93. Closest to the pin were John Schaeffer, Paul Paulsen and Ed Armstrong while Ken Brubaker hit the longest drive of the day.

## Club Hears Role of Olson Labs in Emission Testing

The fast-growing automobile emission measuring business and the future of Olson Laboratories, Inc., were outlined for members of the Ventura Division Management Club at their October meeting by Donel R. Olson, president of the firm.

Northrop recently acquired controlling interest in Olson Laboratories and the company operates as a unit of the Electro-Mechanical Division. Olson is a national leader in the field of vehicle emission sampling and monitoring.

Mr. Olson said Olson Laboratories was formed in 1967 in Dearborn, Mich., with three employees. Today it has 100 personnel, sales at \$3 million per year and operates seven vehicle

emission test centers across the country.

Olson Labs manufactures mobile emission laboratories for the auto industry, calibration gases for use in emission test equipment, and a constant volume sampler also for emission testing.

Mr. Olson noted the importance of the firm's work will increase in coming years as federal and state anti-pollution controls become more stringent.

In a question and answer session, he said the cost of an average automobile in five years will be up \$500 to cover the expense of anti-pollution devices.

However, the pollution curve is downhill, now, he emphasized, "and by 1980 we should have skies as clear as 1940."



M-MMMMMM GOOD

Theresa Alexander, daughter of Jim Alexander, is flanked by Eric and Linda Small, children of Dick Small, at the annual Rod and Gun Club fish fry. Event was attended by more than 60 people.

## Four Long-Time Employees Celebrate Service Anniversaries With Northrop

John Jacobsen marks his 25th anniversary with Northrop this month and three other Ventura men observed 20 years.

Mr. Jacobsen, recently named Mk 30 Program manager (see separate story), has spent all of his quarter-century with the Ventura Division and its predecessor, Radioplane.

Receiving 20-year pins are Joe Reed, a project administrator in Configuration Management, Walt Claycomb, an industrial engineer, and Harold Hawley, a well-traveled subassembler.

Mr. Reed joined Northrop at the Aircraft Division in the Engineering Test Lab and had sev-

eral other duties before transferring to the Ventura Division in October 1967.

Starting his Northrop career at the Electro-Mechanical Division, Mr. Claycomb was manager of Warehousing and worked in Business Systems before moving to Ventura.

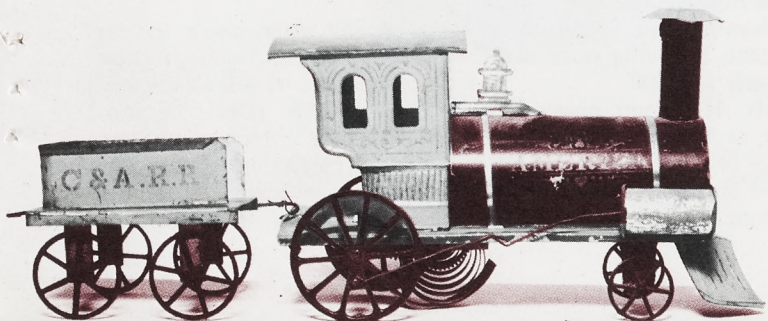
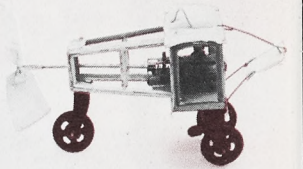
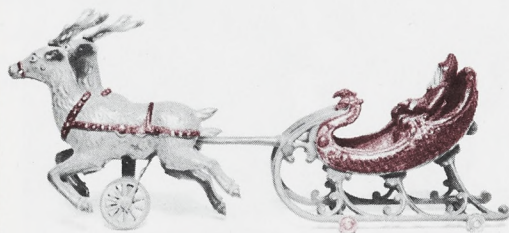
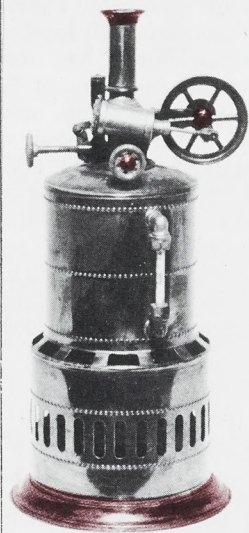
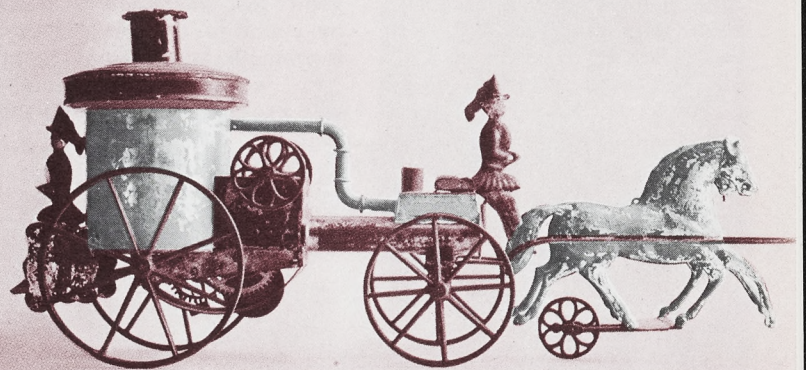
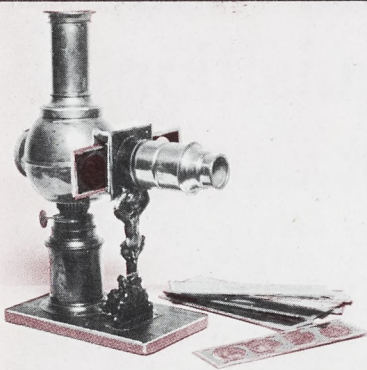
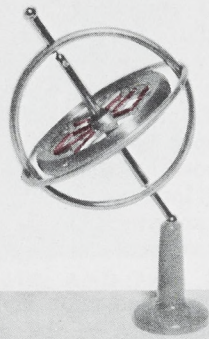
Mr. Hawley started at the Aircraft Division and worked at various Northrop locations around the world before returning to Ventura in 1968.

Receiving 15-year pins this month are John Baldonado of the Press and Vacuum Forms group, and Jim Daniel of the Target Systems Project office.

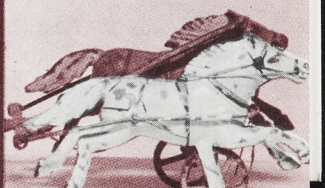


# NORTHROP NEWS

Merry  
Christmas



and a  
Happy  
New  
Year ..





# President Jones Sees Upswing in Economy

Northrop President Thomas V. Jones expressed his confidence in the United States economy and said that Northrop has the resources to participate in the anticipated economic upswing.

Speaking before approximately 200 people at the company's annual shareholders meeting Dec. 14 at the Aircraft Division, Mr. Jones explained that although he doesn't see any substantial improvements in company sales until 1973, the coming year may bring with it a "pleasant surprise."

"The potential for growth is certainly there and I am very confident that we have the resources—financial, technical and human—to take maximum benefits from our opportunities," he said.

In a year when both sales and earnings suffered a decline, Mr. Jones pointed out that, except for 1970, sales for fiscal 1971 were the highest in the company's history and earnings were the fourth highest in the 32 years the com-

pany has been in business.

He cited two major conditions as the reasons for the decline: cutbacks in the production rate for 747 fuselages, and the reduced pace at which certain aircraft programs were scheduled for production.

## Prospects Good

Mr. Jones emphasized, however, that the company has a broad variety of programs and products which can achieve growth when production schedules are stepped up.

Among those he talked about were the F-5E International Fighter Aircraft and the Air Force A-X—attack experimental—program.

"Even before production flight test and based only on the designs for the F-5E, we find that this new aircraft is attracting a good deal of favorable interest by countries outside of those it is primarily intended for," he said. "... we think that this interest will express itself in substantial

sales above and beyond the basic program."

Mr. Jones explained to shareholders that Northrop is one of two finalists—along with Fairchild Industries—in the A-X program.

"We are giving this program a very high priority in our efforts because if we win and if the government goes ahead with the program, it could mean very considerable volume," he stated.

He added that Northrop's entry in the "fly before buy" program should be flying some time in April or May 1972 and that the Air Force flying competition should begin later that same year.

Another major aircraft program cited at the meeting by Mr.

Jones was the company's P-530, a high-performance air superiority fighter designed for use by allied nations in the 1975-1990 time period.

"We have quoted a fixed price for the P-530 of \$3 million per airplane in 1970 dollars," he said. "As in the case with a commercial airliner, the price includes the cost of designing and developing the airplane. There is no requirement that any government finance development. These costs will be recouped out of the sales of airplanes at the established price."

With a commercial approach to the P-530, sponsored by reliable and respected companies, po-  
(See JONES, page 8)

# Arrangements Made For The Acquisition of George Fuller Company

Northrop Corporation has completed arrangements to acquire the George A. Fuller Company, a leading building construction firm, for an undisclosed cash sum, Thomas V. Jones, Northrop president, has announced. No public financing is involved in the transaction.

The Fuller Company, a privately owned concern with headquarters in New York, has annual sales currently in excess of \$150 million a year. Northrop, operating on a world-wide basis with annual sales of over \$600 million is engaged principally in the business of aircraft, communications and electronics.

Noting that Northrop will provide both management and financial support in order for Fuller

to maintain its position of leadership and to assure future growth, Mr. Jones announced the appointment of Robert W. Page as president and chief executive officer of the Fuller Company. William V. Lawson, president of Fuller since 1964, is resigning to take another key position in industry. Mr. Page has been a vice president of Rockresorts of New York City, a Rockefeller Family and Associates company.

Mr. Page has been with Rockresorts since 1966. Previously he was for six years with the Bechtel Corporation where he was in charge of its international real  
(See FULLER, page 8)

## Critical Letters Shock Personnel

Many Northrop employees were shocked by a letter critical of the Shah of Iran and the 2,500th Iranian anniversary celebration which appeared in the Nov. 22 issue of TIME.

This letter, purportedly signed by a Page executive in Iran, was the work of an impostor or impostors.

A second letter, also a forgery, was published in some international editions of NEWSWEEK.

Both TIME (Dec. 6) and NEWSWEEK (Nov. 29) have published corrections of these letters and have acknowledged that they were published in error.



HE ASKED AN INTERESTING QUESTION  
Mr. and Mrs. E. L. Hunnicutt with President Thomas V. Jones, center.

## SHAREHOLDER LEARNS

# How \$600 Could Grow to Over \$17,000

By asking a single question, E. L. Hunnicutt, an original Northrop shareholder, demonstrated to those attending this week's annual shareholders meeting that \$600 invested in Northrop stock 32 years ago now could have accumulated, with dividends and stock splits, aggregate value of more than \$17,000.

Mr. Hunnicutt rose during the question-and-answer session to quote from a letter he had written to the company earlier:

"In 1939, I bought 100 shares of Northrop stock for \$5, plus \$1 brokerage fees, for a total of \$600. I now have, through stock dividends and splits a total of 484 shares. In relation to the original in-

vestment of \$600, exactly how many dollars have I been paid over the years?"

President Thomas V. Jones replied that Mr. Hunnicutt's original investment had drawn dividends totalling \$8,278.42. At the current market value of \$20 per share, his holdings are now worth approximately \$9,000. Assuming all dividends were retained, the total investment, including stock dividends, would be worth nearly \$18,000.

By comparison, had Mr. Hunnicutt placed his \$600 in a savings account, at five per cent interest, his investment would now be worth only \$3,000, which is less than one third the current value of his Northrop stock shares alone.



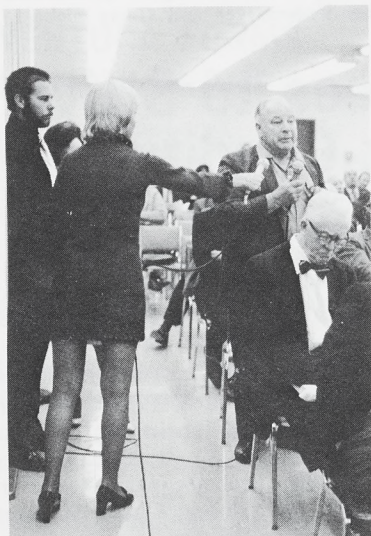


**NORTHROP PRESIDENT** Thomas V. Jones tells shareholders that their company is in sound financial condition and predicts a business turnaround in 1973.

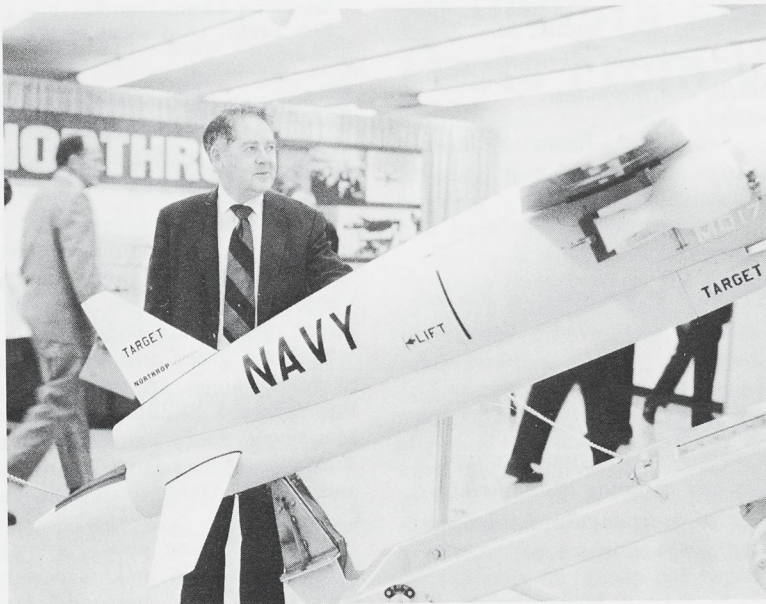
## HIGHLIGHTS Annual Shareholders Meeting



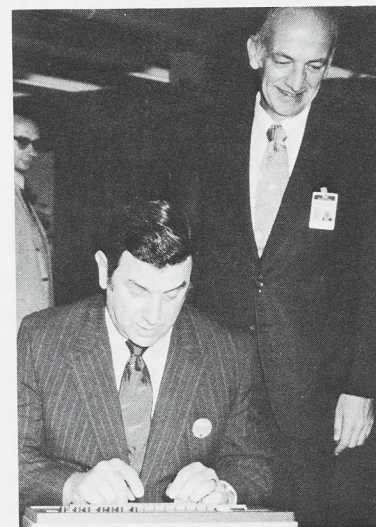
**MR. AND MRS. LYLE B. SCOTT**, shareholders in Northrop for the past 12 years, are signed in by W. D. Wahl, left.



**JAMES H. BUSH**, with microphone, thanks Northrop for its excellent pension plan and the way the company takes care of its employees.



**SHAREHOLDER WILLARD WADE** inspects a Ventura Division drone on display at the annual shareholders meeting.  
Photos by Dave Saldana



**WELKO GASICH**, general manager, Aircraft and Ventura Divisions, tries out DIGISPLAY exhibit with help from Dr. H. Q. North.



**DIGISPLAY** operation by Laura Martinez intrigues shareholders Mr. and Mrs. Harold Barbey. DIGISPLAY is a flat panel TV display that employs electron beams instead of a cathode ray tube.



**MR. AND MRS. WILLIAM H. JUSTICE** stop to view TISEO, Target Identification System Electro-Optical, photo display shown at the shareholders meeting.





## Season's Greetings



### To the Men and Women of Northrop:

*The Holiday Season—with its bustle and spirit of celebration—also brings a time for reflection upon the accomplishments of the past year and upon the prospects for the future.*

*In 1971 Northrop advanced on many fronts. Each forward step required extra effort, ingenuity and cooperation. This determination, strength and willingness to do more when it is needed most is a Northrop tradition. It is a spirit I admire greatly and one that makes me proud of every man and woman of Northrop. And it fills me with confidence that the years ahead will be better for us all.*

*To each of you, and to each member of your family, Mrs. Jones and I extend our personal wishes for a joyous Christmas and a New Year of good fortune, good health and happiness.*

Thomas V. Jones  
President

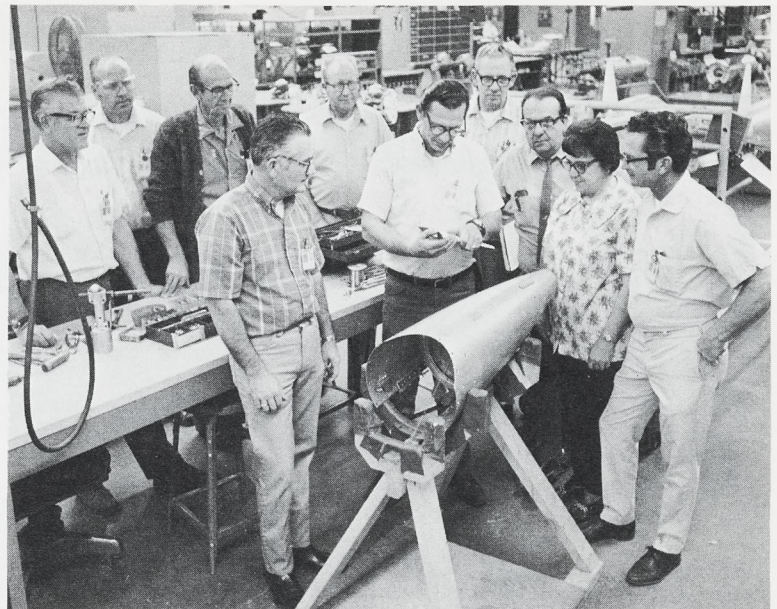
### To Ventura Division Personnel:

*There is no better time of the year than in the midst of the holiday season to thank each of you for the extra effort, dedication and hard work which made 1971 a success.*

*We have seen change and adjustment. That change will continue is a certainty; that our team spirit will carry us forward into the challenges and opportunities of the new year is equally certain.*

*Not changing, however, is the spirit and meaning of the holidays. I extend to you and each member of your family the warmest greetings of the season and wish you all a happy new year.*

Welko Gasich  
General Manager



### WORKMAN'S SAFETY COMMITTEE IN MQM AREA

From left, Steve Wrubel, Bob Vogt, Al Hahn, J. B. Smith, Sam Trinkle, assembler Chuck Odorfer, Bud Hall, Ralph James, Margaret Novak and Bob Leslie. (Not pictured are Barney Federmeier and Gerry Siebers.)

## Four Committees to Strive For Safe Work Conditions

Four newly appointed safety committees are meeting regularly to assure that all areas of the Ventura Division are operating under proper safe conditions.

Sporting green and white safety cross badges are members of the General Safety Committee, Manager's Safety Committee, Workman's Safety Committee and Special Material and Devices Committee.

"Each of these people are actively involved in making certain that all of our personnel are working under safe conditions," explains Rex Fairless, manager of

Industrial Relations and Administration.

Personnel with any safety-related questions are urged to contact their nearest Safety Committee member.

Committees and their members:  
**GENERAL SAFETY** — Harry Parker, chairman; Marian Robinson, Al Binsacca, Gary Bussis, Clark DeSpain, Rex Fairless, Paul Potter, Chuck Simmers and Dick Warner.

(See COMMITTEES, page 5)

## Six Employees Get Service Pins

Richard Cooper, a heating and air conditioning mechanic, celebrated his 20th anniversary with Northrop this month.

Mr. Cooper, who received his service emblem from acting General Manager John Evans, has spent the entire two decades with this division. Before moving to the Maintenance Department he worked in the Paint Shop.

Barbara Hart, secretary to Mason Shehan of the Washington office, was the lone 15-year pin recipient in December. There were no 10- or 5-year honorees this month.

Last month, however, five-year pins went to Bob Clark, Ron Robinson, Matt Newcomb and Don Woolard.



**LT. DAVID W. CHATELAIN, USMC**, son of Ventura's A.I. (Chat) Chatelain, manager of Construction and Maintenance, received honors in Advanced Flight Training School at Pensacola, Fla., where he is learning how to fly helicopters and small aircraft. Lt. Chatelain's dad spent 21 years in the Navy with the Seabees.



### RECEIVING THE 25-YEAR PIN

John R. (Jake) Jacobson, left, honored by Welko E. Gasich.





**ENJOYING DECORATIONS** at Ventura are, from left, Celia Hagler, Alma Arroyo and Tony Mata. Decorations for Plastics Lamination personnel are provided by the group's Midge West each year.

## VENTURA FORMS PATENT GROUP

Ventura personnel who have an invention which they feel may meet the qualifications for a patent can pursue the patenting aspects through a five-man committee recently named by General Manager Welko E. Gasich.

Mel Rich, in Blueprint Check, is the chairman of the Invention Evaluation Committee responsible for processing invention disclosures originating at Ventura.

Also on the committee are Enos Jeffs, Hal Ort, Lauren Persons and Frank Tipton.

Personnel with questions concerning present or planned inventions are urged to contact any of these men for assistance.

## Golf Decided By Fractions

Does one-fifth of a golf stroke mean much? Ask Zeda Armstrong or Clara Curtis.

Mrs. Armstrong shot a net 70.13 to Mrs. Curtis's 70.32 to win the women's match as the Ventura Division Golf Club played the Buenaventura course in Ventura last month. Lois Sheridan had an 83 for third.

Another highlight of the day was a net 62 by Bob Siteman to win the B Flight. Dave Logan followed with 67 as Ed Sheridan nudged Jim Young, 69.93 to 70.07 for third.

Also close was the scoring for second in the A Flight won by Warren Sparks with a 66. Second went to Roy Shelly — the overall point leader — with a 70.80 to George Avery's 71.04.

Mr. Logan had the longest drive and was closest to the pin along with Lauren Persons.

The final 1971 tourney is Dec. 27 at Ojai's Soule Park.

## HOLIDAY AHEAD

The long yearend holiday at Ventura will begin Dec. 24 and last for 10 straight days. Normal work shifts will resume Jan. 3.

## COMMITTEES

(Continued from page 4)

**MANAGER'S SAFETY** — Paul Potter, chairman; Elinor Eckels, Ralph James, Al Martin and Les Myers.

**SPECIAL MATERIALS AND DEVICES** — Al Binsacca, chairman; Carl Emerich, Bill Hacch Ron Harrison, Earl Morris, Joe Pulver and Chuck Simmers.



## ORAL PIERCEY ADVISES ON J.A. 'ASSEMBLY LINE'

From left, Junior Achievers John Kent, Cindi Waddell, Gary Becker, Mary Duarte.

## Achievers Learn Business Facts From Ventura Men

More than two dozen Conejo Valley high school students are learning the basic facts about business under the guidance of five Ventura Division men.

Cusco, a Junior Achievement company sponsored by the Conejo Valley Industrial Assn., is manufacturing and selling custom-made coasters.

The youngsters from Thousand Oaks High, Newbury Park High and the Newbury Park Academy meet each Monday evening at the Ventura Division Recreation Club's new facility.

Under the leadership of their own officers the group has organized its company through stock sales, begun production and soon will be marketing their product.

Elected to head the operation are Larry Poudrier, president; Bob Alger, vice president-sales; Gary Becker, vice president-manufacturing; Yolanda Garcia, secretary; and John Kent, treasurer. All are students at TOHS.

Advising the group are Venturans Bob Feakins, John Flores, Ray Lavi, Oral Piercey and Ken Wagoner.

## Firsthand Knowledge

Junior Achievement is a nationwide program offering teenagers an opportunity to learn about business firsthand by operating their own company. JA companies are liquidated after 10 months with profits going to stockholders.

The youngsters selected the wood and cork custom-made coasters as their product. The coasters will carry a monogrammed initial.



**HOMECOMING QUEEN** at Pierce College in Woodland Hills is Bonnie Boynton, daughter of Ventura's Fred Boynton. Miss Boynton was crowned by last year's queen, Kathy Johnson.



**HONORED BY MANAGEMENT CLUB**  
Outgoing president George Bostater (left) with new president Dave Coe (center).

## Candy Lovers Look Forward to Sweet Holidays

Ventura personnel will be picking up their candy this week — 850 pounds of it.

The See's candy was ordered at discount late last month through the auspices of the Ventura Division Recreation Club.

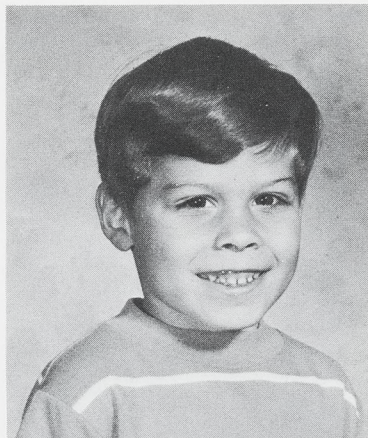
Personnel who ordered the 1, 2, 3, or 5-lb. boxes will be able to obtain their goodies in the cafeteria at lunch time.

Dorothy Prychoda managed the candy campaign. She was joined by members of the Rec Club Executive Committee as well as Vera Bailie in the Manufacturing facility and Hal Hunsberger, Dick Raney, Don Reynolds, Betty Dino, and Nellie Cook in taking orders in the cafeteria.

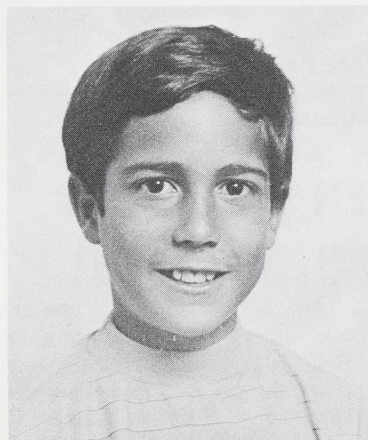




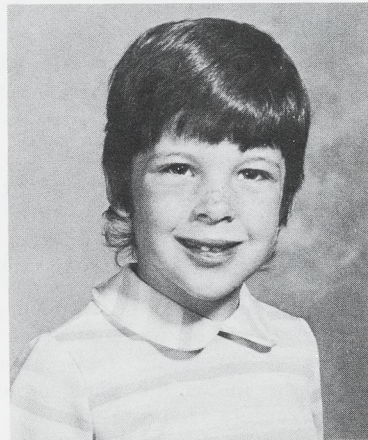
Sheri Nicole



Mark



Rick



Donna

## Children Have Different Opinions About Christmas

In this period just before Christmas the very young are living in a wonderful world of anticipation. Each little mind has formed its opinion as to what it is all about. Northrop News, with a big assist from fathers and mothers, queried a cross section of youngsters to find out what Christmas means to them.

Sheri Nicole, 5, daughter of Paul Dunn of the Electronics Division, put the whole season into its proper perspective with: "It means Jesus' birthday."

Mark, 6, son of Frank Balasz of the Ventura Division, quipped: "When Santa comes he only brings one toy. He can't make lots of toys for each person because there are too many children. I hope he brings me a train set." Mark added, however, that his mommy and daddy provide him with many other toys.

Rick, 11, son of Al Tiberio of the Aircraft Division, brought up another angle with: "Christmas means two weeks out of school and having a great Christmas

morning."

Donna, 7, daughter of the Electro-Mechanical Division's Chuck Dempsey, added these thoughts: "Oh boy! Fun! You get a week off from school for vacation. People give you presents and you give them some. You get to go to the store and get your picture taken with Santa. We get to put up the same Christmas tree every year because it's a little fake one and we make decorations at school."

## NORTHROP MEN GUIDE GRIDDERS

Two Hawthorne Junior All-American Football teams in the PeeWee Division have relied on Northrop talents in gaining championships.

In addition to the play of Northrop sons, the Huskies of the Pacific Coast Division were coached by Northrop's Terry Birdsall who was assisted by Dan Rich, Jim Rasnick, Mike Henson, Jim Brenton and Harry Darnell.

The Giants, winners of the Rocky Mountain Division, were coached by Northrop's Dale Hahbeck with Bill Green, Deb Jones, Fred Hynes and Ted Johnson as assistant coaches.

## FUN IS HIS WHEN

### John Burke Doubles As 'Strolling Santa'

"Christmas may be the biggest day of the year to children, but it is Santa Claus who has the most fun."

This is John Burke, Electro-Mechanical Division Security office, speaking. While John isn't Santa, he has stood in for the North Pole toy maker enough to know how the old boy feels.

While John has acted as Santa's stand-in at division parties and at schools, his major activity is as a strolling Santa, wandering around at Christmas like the choraliars who go from house to house.

His adventures last year at Rancho Cardova where he was visiting are typical of his activities. In strolling in costume through the area he stopped at all houses whether he knew the owners or not. "You're welcome everywhere," he reports. "Nobody turns Santa away."

One time a little girl demanded to know where the reindeer were. "I hope they'll be along soon," John replied. "And that was no lie for I did hope."

When he left, he stomped his feet hard on the walk, shook some bells and shouted, "Ho! Ho! Ho!" and beat a hasty retreat be-

fore she could look out the window and be disillusioned by the sight of Santa walking.

He recalls another house where the mother told him her daughter and the neighborhood children had decided that Santa was a myth, but when she called the child, the little girl took one look at John in his Santa suit and fled, crying, "If I don't get to bed, he won't leave any presents!"

Her parents took a picture of John and the child took the Polaroid shot around the next day to show her friends that they were wrong. There really was a Santa after all.

On another occasion he visited a school where the children were convinced that he was their janitor who had a similar build. He let them think so, but when he got ready to leave he stuck his head back in the door to say goodbye and had with him the man they thought was behind the Santa face. "I left them with their mouths open, wondering who I really was," John said.

John got into the strolling Santa hobby twenty years ago while with the U.S. Navy in Japan. On Christmas day in 1951 he and two

other sailors bought \$70 worth of candy at the Ship's Store and passed it out to children on the streets of Sasebo.

"As I recall," he said, "that was the wettest Christmas day in the town's history. We got soaked, but the children's expressions kept our spirits from getting damp. That's when I first learned that the person who has the most fun at Christmas must be old Santa himself."

## TAX CHANGES

The base for Social Security deductions goes up from \$7,800 to \$9,000 in 1972 with Northrop paychecks to be distributed Jan. 7 reflecting the change.

Northrop personnel earning the \$9,000 base, or more, have been paying \$405.60 annually. Beginning in 1972 they will pay \$468. Northrop matches the amount paid by each employee.



JOHN BURKE HEARS FAMILY WISHES  
Daughters Pam, Cindy, Sally and Lisa talk Christmas with Dad.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Gran Prix**, 1970, fully equipped, \$2,850. 213-545-6946.

**Chevrolet**, 1965 Impala SS sport, 396 turbo convt., \$725. 213-675-6081.

**Corvette**, 1964, new 411 posi., eng. just r/blt., A/F radio & remov. top, 4-spd., \$1,000. 213-676-3914.

**Barracuda**, 1970, 2-dr., h/t, 440-6-pak, auto. trans., r/h, new tires, mag whls., \$2,300. 213-635-4696.

**Cadillac**, 1967 CDV, t&t steering, full power, a/c, 63,000 act. miles, \$2,750. 213-377-6458.

**Toyota**, 1969 Corona Deluxe, low mileage, \$1,600. 213-374-6445.

**Ford**, 1961, Wagon, \$125. 213-644-0968.

**Sunbeam Alpine** roadster, remov. h/top, AM/FM radio, wooden dash, wire whls., \$550. 213-325-6348.

**Pontiac**, 1968 Lemans, V-8, auto. trans., p/s, a/c, new tires, \$1,250. 213-365-7338.

**Chevrolet Pickup**, 1956, r/blt. eng., \$375. 213-378-3736.

**Cadillac**, 1968 El Dorado, 42,000 mi., 5 new tires, FM stereo, fully equipped, \$3,795. 213-324-8190.

**Mustang**, 1965, V-8, a/c, p/s, auto. trans., new tires, new batt., \$950. 714-993-1917.

**Plymouth**, 1970 Road Runner, r/h, air grabber, 22,000 mi., \$2,150. 714-839-8833.

**Cadillac**, 1962, 4-dr., full power, air, w/ Frantz oil cleaner, gold paint, \$400. 714-523-5389.

**Ford**, 1962 Galaxie 500, r/h, p/s, p/b, new tires, \$300. 213-679-6108.

**Metropolitan**, 1959, h/top, \$125. 213-862-8783.

**Rambler**, 1959 American, auto. trans., 57,000 mi., \$225. 213-833-5515.

**Volkswagen**, 1965, orig. paint, low mi., custom uphol., radio, new brakes, \$695. 714-633-5826.

**Fiat**, 1969, 124 Spider, mag. whls., det. h/top, 33,000 miles, \$2,200. 213-676-7554.

**Renault**, 1963 R-8, radio, 4-whl. d/brakes, \$275. 213-831-9589.

**Ford**, L.T.D. 1967, 2-dr., air, speed cont., 428 C.I.D., 47,000 miles, \$1,500. 213-329-3476.

**Chevrolet**, 1962 Impala, p/s, p/b, r/h, \$250. 213-674-8289.

**GMC**, 1967 1/2-ton pick-up, 63,000 mi., 292 eng., 4 spd., new tires, brakes, shocks, \$995. 213-347-4196.

**Cadillac**, 1955, \$200. 213-371-2531.

**Volkswagen bus**, 9-pass., \$1,750. 805-527-5636.

**Riviera**, 1968, 61,000 mi., min. bid \$1,645. Credit Union, ext. 1117.

**Fiat**, 1961, 1200 conv., \$395. 213-633-2990.

## Miscellaneous For Sale

**Chrome Wheels**, 13", \$10 ea. 213-375-6397.

**TV Antenna**, new VHF-FM, Winegard CW-46, \$35. 213-631-3000.

**Speakers**, 2, 12" Electro-Voice, walnut fin. encl., \$150. 213-370-9124.

**Accordion**, 120 bass, 7 keyboard switches, 2 bass switches, \$150. 213-326-1856.

**Jungle Gym**, pre-school, wooden dowel climbing cubes, \$10. 213-676-3050.

**Luggage**, new, men's & women's, 3 piece matched sets, leather, hand made in Italy, \$250 per set. 213-372-1355.

**Transmitter**, Johnson pacemaker, SSB-AM-CW, 10-80 meters, \$100. 714-968-4992.

**Electric Blanket**, double bed, dual controls, \$7. 213-327-4585.

**End Tables**, 2 heavy maple, \$15 ea. 213-671-1518.

**Accordion**, Baleorica, 120 bass, \$250. 805-483-5644.

**Pups**, Basset, 6 wks. old, AKC, pedigree, champion sired, shots, \$75 up. 213-377-2052.

**Radio Transceiver**, VHF-FM, console, 50 watts, G.E., w/remote control, \$100. 213-322-6655.

**Sewing Machine**, Singer, w/full set cams, \$160. 213-370-1069.

**Couch**, three piece sectional, w/ottoman, 4 matching end tables, 2 club chairs, dining table w/6 uphl. chairs, tea cart, breakfast table w/4 chairs, \$400. 213-323-4329.

**Typewriter**, electric SMC, \$80. 213-293-5888.

## Miscellaneous For Sale

**Record Player**, Show N Tell, 16 picture records, 4-spd. w/11" diag. viewing screen, \$15. 213-327-2279.

**Roller Skates**, ladies, white, rink, size 8, \$6.50. 213-545-1631.

**Windows**, 8, wood, 24" x 36", \$2 ea. 213-379-4517.

**Tires**, 2, snow & mud cleated, w/wheels, size H-70-14, \$40. 213-823-8694.

**Pool**, Dough Boy, 18' x 4', filter, vacuum, acc., \$200. 213-899-1015.

**Skis**, Kneissl Red Star, 210 cm, solomon slip-in bindings, \$50. 213-372-4141.

**Movie Camera**, Bolex, model D8L, 8 mm, pistol grip & carrying case, w/light bar, \$50. 213-428-3529.

**Acreage**, 160 acres, 40 acre parcels, near Santa Maria, \$395 per acre. 213-370-3821.

**Recliner Chair**, aqua, naugahyde, \$75. 213-329-2981.

**Piano**, Fischer, console w/bench, \$350. 213-378-2790.

**Dining Table**, birch, 38" x 65", 2 fillers & 6 matching chairs, \$99. 213-396-5837.

**Sewing Machine**, 1971 mod., domestic, port., \$95. 213-863-3900.

**Pony**, male, brown with flaxen mane & tail, \$75. 714-527-5212.

**Boat**, 27' Chris Craft, flying bridge cabin cruiser, fully equipped, s/s radio, RDF, bow rail & swim step, \$4,950. 213-329-3900.

**Mini Bike**, Rupp, Mac 90, 9 h.p., \$125. 213-542-2638.

**House**, 3-bdrm., 1 1/4 baths, patio, liv. rm., den, \$33,000. 213-830-1216.

**English Ironstone**, comp. service for 8, platter & veg. dish, dishwasher & oven proof, all white, \$15. 213-943-8187.

**Home**, corner, 2-story, 4-bdrm., 2 baths, cpts., dps., bltins, across from new Los Cerritos shopping center, \$31,900. 213-860-3022.

**Travel Trailer**, 1968, 16 1/2', sleeps 8, stove w/oven, ice box & dbl. sink, \$1,250. 213-671-9231.

**Travel Trailer**, 1967 Norris, 17', self-contained, pressurized water w/heater, sleeps 6, \$1,750. 213-378-7846.

**Motorcycle**, 1964 Honda Trail, 90 cc, \$150. 714-528-8582.

**Mini Bike**, Cat 400 Deluxe, 4 h.p., springs & shocks susp., \$85. 213-431-9620.

**Typewriter**, Underwood electric, 16" carriage, \$115. 213-375-5760.

**Watersoftener**, large, Servisoft, \$85. 213-379-3300.

**Pool Table & equipment**, 8', \$175. 213-679-7746.

**Tape Recorder**, portable, Craig 212, 3" reel to reel, auto. level control, batt. or AC, \$20. 213-392-3147.

**Refrigerator**, gas, 3 1/2 cu. ft., \$35. 213-322-2364.

**Crib**, adj., w/mattress, hi-chair, booster seat, misc. child's items, \$47.50. 213-376-4831.

**Table Lamps**, 49", 3-way, brown & beige, \$10. 213-376-2725.

**Horse**, mare, 9 yrs. old, part thorobred, \$300. 213-378-0501.

**Volkswagen Parts**, w/complete kit, \$90. 805-482-3893.

**Sewing Machine**, industrial, Willcox & Gibbs, w/commercial table, \$100. 213-374-2915.

**Racing Catamaran**, 14' Hobie Cat, trailer, many extras, \$950. 213-397-5448.

**Shotgun**, 12 ga., Remington #1100, 3" magnum, used once, \$120. 213-635-6475.

**Motorcycle**, 1969 Honda 50 racer, w/long straight pipe, wide handle bars, w/Honda 90 carb., \$100. 213-274-0589.

**Couch**, 6' 6", wing back, wood trim, nylon, lt./brn. w/rose, 3 rever. cushions, \$80. 213-671-6692.

**Motorcycle**, 1971 Honda 70, \$190. 213-831-3737.

**Chairs**, 2, quilted, olive green, \$20 ea. 213-532-6662.

**Trousers**, men's sizes, 38" & 40" waist, 28" & 29" length, \$5 pr. 213-675-2772.

**Mink Coat**, 3/4 length, brown, never worn, \$395. 213-347-4599.

**Acreage**, 5 acres, Antelope Valley, view, some paved frontage, \$6,000, \$400 dn. 213-378-1026.

**Trail Bike**, Honda 90, less than 500 mi., \$225. 213-324-7637.

**Bicycle**, 10 spd., American Eagle, \$55. 714-879-2569.

**Piano**, upright, recently tuned, re-finished, \$185. 213-696-7529.

**Flatware**, stainless, w/ebony handles, 59 pieces, \$15. 213-644-0003.

**Refrigerator**, 12 cu. ft., \$65. 213-542-2353.



**CARGO-CARRYING** capacity of the new Boeing 747 Freighter is graphically illustrated by a line of freight 320 feet long. Cargo represents 200,000 pounds and 17,000 cubic feet which can be carried across the Atlantic in a single trip. Set for delivery in March 1972, new 747F will go into service a month later with Lufthansa German Airlines.

## Miscellaneous For Sale

**Electric Organ**, Lowrey, two manuals, \$400. 213-346-3751.

**Sportfisher**, 23' uniflite, h/top, 225 h.p. Chrys. inbd., fr. watercooled, extras, \$11,500. 213-271-3484.

**Baby Furniture**, \$35. 213-635-7843.

**Boat Trailer**, American, for 16 to 18 ft. boat, \$100. 213-941-3804.

**Motorcycle**, 1964 Suzuki, 250 cc, mtr. dismantled, \$35. 213-644-9457.

**Wheel Chair** and walker, Everest-Jenning deluxe, \$175. 213-758-9153.

**Stove**, O'Keefe & Merritt, gas, 4-burner, top grill, white, \$50. 213-423-9358.

**Sheltie Pup**, f., 5 1/2 mos., 13" high, AKC pedigree, all shots, \$50. 213-374-6727.

**Cabin Cruiser**, 16-ft. Harcraft, fiberglass/wood, 30 h.p. eng., elect. start/pump, anchor, extras, tandem tilt trailer, \$595. 213-323-7177.

**Jacket**, sable mink, \$400. 213-396-5428.

**Table**, sabre saw, Sears, 15 x 17 x 9 in., \$3. 213-671-1617.

**Bench Saw**, 10-in. Craftsman, 1 h.p. mtr., stand, exten. table, guard, ex. blades, DADO set, \$150. 213-378-1771.

**Stove**, Gaffers & Sattler, 4-burners, \$49. 213-324-9491.

**Luggage**, Lady Baltimore, \$10. 213-672-3460.

**Phonograph**, antique Brunswick, needs spring, \$30. 213-379-5652.

**Stereo**, Harmon-Kardon, power amp, 120 watts, pre amp, FM tuner, walnut cabinets, \$300. 714-894-6365.

**Drumset**, professional, 5-pc. with 4 cymbals, \$250. 213-375-9485.

## Wanted to Buy

**Bicycle**, 10-spd., boys, will repair. 213-375-8460.

**Exercise Bicycle**, stationary, Schwinn. 213-377-4623.

**Vacuum Cleaner**, under \$20. 213-545-2577.

**Freezer**, chest type, 10 to 18 cu. ft. 213-833-2301.

**Dinette Set**, 4 or 6 chairs. 213-323-0474.

**Pocket Watches**, old, American, watch repair equip. 805-482-0690.

**Fill Dirt**. 213-834-3290.

**Piano**, upright, with or without bench. 213-671-1102.

## Free (To Be Given Away)

**Rabbit**, adult, female. 213-374-8201.

## Rentals Offered

**Apt**, 1-bdrm., unfurn., range, refrig., cpts., dps., a/c, car port, storage locker, Westchester area, adults only, no pets, no lease, by appointment only, \$150 mo. 213-756-5157.

**Apt**, 3-bdrm., 2 baths, 3 blks. to King Harbor, Redondo Beach, 1 mo. free rent, cpts., dps., bltins, close to shopping, schools & bus, \$215 mo. 213-379-6549.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.

**Vacation Home**, Lake Arrowhead, 3-bdrm., 2 baths, walk to lake, beach club privileges, \$140 wk., \$60 w/end. 213-377-3817.

**Cabin**, new 2-bdrm., Big Bear City, \$40 wk/end. 213-320-6486.

## Rentals Offered

**Duplex**, 2-bdrm., unfurn., w/w cpts., enc. patio, fenced yd., near schools, 2 mi. from Northrop, no pets, small child, \$155 mo. 213-674-0880.

**House**, 2-bdrm., h/wood flrs., dps., 5 min. to Northrop, adults, no pets, trash, water, lawn paid, \$160 mo. 213-677-8543.

**Apt**, lge. 2-bdrm., 1/2 blk to ocean, refrig., stove, Hermosa Beach, \$185 mo. 213-379-4471.

**Apt**, 1-bdrm., El Segundo, furn., \$140 mo., \$120 mo. unfurn. 213-757-9321.

**Cabin**, Rim Forest, near Arrowhead, Running Springs, sleeps six, fireplace, \$30 wk/end, \$90 wk. 213-370-7105.

**Cabin**, 2-bdrm., sleeps 8, Big Bear-Moonridge area, f/place, TV, bltin AM-FM radio, lge. kitchen, \$90 wk., \$40 w/end. 213-541-3000.

## Personals

Thank you for the kindness & sympathy expressed at my father's passing. WELKO E. GASICH.

My sincere thanks, NRC, for the lovely flowers. NANCY EASTERLY.

My heartfelt thanks to all my friends at Northrop for the cards, letters & encouragement during my recent illness. BETTY KILTZ.

I wish to thank all my friends for the cards & flowers received during my husband's recent illness. SARANN KRUSE.

I wish to thank all my friends for their gifts & cards during my recent illness. RUTH FERNANDEZ.

My whole hearted thanks for your help & warmth during my bereavement, upon the passing of my father. RHODA GIVENS.

I wish to thank my many friends & fellow workers for the cards & calls received during my recent illness. LA RUE GUYER.

Thank you for our wonderful retirement party & for your friendship over the years, our greatest gift of all. ADELAIDE AND ROBBIE ROBINSON.

**Ride Wanted**, 8 a.m.-4:42 p.m., crn. Spencer St., Hawthorne Blvd., Torrance, Aircraft ext. 1188.

**Ride Wanted**, Imperial Hwy., Paramount Blvd., Downey, 8 a.m.-4:42 p.m. Aircraft ext. 1305.

I appreciate, more than words can say, your acts of kindness during the hospitalization and death of my husband, Ira Swaffar. RUTH N. SWAFFAR.

I would like to express my sincere thanks to my friends who helped me over the first and biggest hurdle after my recent surgery. PETER SHRAMKO.

Information sought as to whereabouts of Bulova watch movement lost Nov. 12 following a motorcycle-auto accident at 139th St. and Prairie that took life of Bill McGill. Virginia McGill, ext. 1006, Aircraft.

## NORTHROP NEWS

Vol. 29

No. 19

Published monthly by Corporate Public Relations and Advertising for the employees of Northrop Corporation.

Mailing address: Northrop News, 170/62, Northrop Corporation, 3901 West Broadway, Hawthorne, California 90250.





AMONG THE FIRST NORTHROP employees to receive increased benefits under the revised Northrop Patent Award Plan were members of the Corporate Laboratories Laser Systems Laboratory. Receiving their awards from Dr. Gerard Hasserjian, director, right, are Ronald G. Eguchi, Kay C. Crill, Dr. Michael M. Mann, Dr. William B. Lacina, Donald D. Diem and Dr. Mani L. Bhaumik, from left.

## JONES—Prospects for Future Look Promising

(Continued from page 2)

tential customers know they can make a commitment with full confidence, Mr. Jones noted.

In areas of business other than aircraft, such as communications and electronics, the company is moving forward at a steady pace, Mr. Jones said.

He mentioned the activities of Page Communications Engineers in Iran, where it is leading an international consortium that is building a nationwide telephone, telegraph, television and data communications network; and the activities of the Hallicrafters Company in producing electronics countermeasures equipment.

In concluding his remarks, Mr. Jones noted that "the life of a corporation like Northrop does not consist only of sales and earnings, of manufacturing and selling.

"There is a human side to it that is very important and I want to say that if in these months we are going through fairly difficult times, our people have responded to them wonderfully.

"The challenge has certainly brought out the best in them. More than that, we have stimulated a companywide program of individual participation in community activities so that we are in a position to feel that, on the whole, Northrop people are shouldering their share of civic responsibilities in the communities in which they live and the nation.

"I think this is very important

in these times and we are pleased at the extent of activity our people represent."

## FULLER—A Top Construction Firm

(Continued from page 2)

estate development division. Prior to that he was with Texas Instruments in charge of design, construction and management of new facilities.

"Acquiring Fuller expands Northrop's commercial business," Mr. Jones said. "The acquisition also enables us to extend our work in the areas of environmental control and in the area of urban development through construction of hospitals, health care centers and planned communities. In addition, Fuller will make available to us certain expertise in the construction field for the phases of Northrop's operations that involve construction including a construction management team," Mr. Jones pointed out.

"The Fuller Company, founded in 1882, has an outstanding and respected record in the construction field. Although it has experienced some severe losses on certain contracts in the past few years, we are convinced the basic strength of the company remains," Mr. Jones added.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**

## Revision of Patent Award Plan Will Help Inventors

Increased patent award payments coupled with the prospect of earning additional cash through special awards make the Northrop Patent Award Plan revised July 31, 1970, more attractive than

ever before for Northrop inventors.

An inventor with an invention deemed valuable enough to warrant filing a patent application now earns \$100. The old rate was \$50. And should that application lead to an issued patent, the inventor receives an additional \$300. Before he would have earned \$50.

In addition, special awards may be paid to those whose inventions have been licensed to others and produce royalty income for Northrop; been outstanding and have contributed significantly to the success of the company; been sold by Northrop for a substantial consideration. Special awards are a fairly recent addition to the plan.

Aircraft Division activities associated with patents are administered by a special committee chaired by Jim Crawford and comprised of Barney Gaiennie, Mel Shorr, J. P. Taylor and Willard Graham.

Mr. Crawford may be reached at ext. 1982 for information.

## Savings Plans to Follow New Fiscal Year in 1972

The change of the Northrop fiscal year to the calendar year, effective Jan. 1, 1972, will bring a change in the dates when employees may apply to enter, or to change their contribution to the Northrop Savings Plan, Don Lutz, Corporate director of Retirement and Savings Plans, has announced.

In the past, applications to start or change contributions were to be made before the first day of August, November, February or May. With the new fiscal year, applications must be made before the first day of January, April, July or October.

## Cover Artist



ERWIN "STEINIE" STEINMEYER, an illustrator at the Electronics Division, created the cover for this year's special Christmas edition. The old toys shown on the cover are from the private collection of Mr. Steinmeyer and a friend of his, both of whom are avid antique toy collectors. Mr. Steinmeyer joined Northrop in 1953. Prior to that he worked as a commercial artist in the Hollywood Division of Foote, Cone and Belding, a well-known advertising agency.



# NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 30, No. 1

January 1972



**BOB CRUZ, TOP SUGGESTER, GETS PRIZE FROM JOHN EVANS**

Also, from left, Bill Adams, Paul Friedman, John Clancy, Eli Salas, Alice Greiner, Cliff Mark, Ann Kent, Chris Benneche, Maria McFarland and Gloria Correy.

## IN SUGGEST-A-THON CONTEST

### Four Take Home Double Prizes

Four Venturans had an extra \$100 worth of Christmas spending to do as they won double prizes in the recent seven-week Suggest-A-Thon.

Receiving two of the \$50 merchandise scrip books for their suggestions were Bob Cruz, Boeing Honeycomb Fabrication; Alice Greiner, Material Control; Bill Adams, Contract Accounting; and Gloria Correy, Correspondence Control.

Seven others were awarded one book in a special presentation by John E. Evans, assistant general manager and vice president of Production Operations. They were:

John Clancy, Tool Control; Eli Salas, Shipping; Paul Friedman, Plastic Repair; Cliff Mark, MQM

Final Assembly; Ann Kent, R&D Estimating; Chris Benneche, Chukar Value Engineering; and Maria McFarland, Contracts.

Mr. Cruz topped all of the 80 suggestions submitted during the special contest. Thirty-nine of the 80 merited awards.

Leading the list was the \$263 award for Mr. Cruz's idea involving re-use of expensive two-way

tape in the honeycomb process. Mrs. Greiner earned \$216 for her suggestion which calls for reducing paperwork.

A total of \$1,296 was earned by cost-conscious Venturans. The additional \$750 in merchandise scrip books brought the total awards to over \$2,000.

Others receiving cash awards as a result of the Suggest-A-Thon were William Cruz (not related to Bob Cruz), J.W. Tremblay, Norris Drewery, D. R. Mills, and Bert Stohlmann.

Also, Charley Atkins, Gene Colborn, Francis Baker, Frank Cua, Ed Zurawski, Rose Harrington, Steve Wrubel, Jake Taddeo, Dorothy Clouse, Fran Rush, Gary Williams and D. H. Moore.

## STUDENTS PICK BONNIE BOYNTON

Another honor for the daughter of Ventura's Fred Boynton was announced this month by the Associated Students at Pierce College in Woodland Hills.

Bonnie Boynton, a 19-year-old English major with a 3.9 grade average, was named female Student of the Year at an awards banquet in Tarzana. Last month's Northrop News pictured Miss Boynton as Pierce Homecoming Queen.

Miss Boynton served as Associated Women Students President last year, is a member of two honorary societies and a social sorority.

She is not only active in student government and civic affairs but also works 25 hours a week in a department store.

Her father is a process cameraman in the Arts and Graphics branch at Ventura.

## Recreation Club Given Assistance

Management of the Ventura Division has given the Ventura Division Recreation Club a check for \$5,430 to help pay for the calendar year 1972 expenses.

"Northrop recognizes the needs of the Recreation Club and this check is a good example," said Chuck Simmers, Industrial Relations representative to the Rec Club. He presented the check to Rec Club President Bob Calhoon.

Mr. Simmers cited the club's "recreational and social activities for employees and the efforts of those who brought it about."

Mr. Calhoon said, "I speak for all the employees and their families who have participated in Rec Club-sponsored activities in thanking the division for this check . . .

"Especially for those elected and appointed members of the Rec Club who have worked to not only make those activities available but who have made the events sufficiently worthwhile to warrant this very generous gesture of Northrop's support."

Mr. Calhoon said the money will go into the club's general fund for continuing Rec Club activities.

The recently completed Rec Club facility, in the Administration building, serves as a meeting place and focal point for several Rec Club-sponsored groups.



**PRESENTING CHECK TO RECREATION CLUB**  
Rec Club President Bob Calhoon, left, receives it from Chuck Simmers.

## SERVICE AWARDS GIVEN TO SEVEN

Seven Venturans qualify for service pins this month, headed by two 15-year pin recipients.

With Northrop 15 years are Louise Woods, secretary to Stiles Burke, and Jerry Williams, Quality Engineering and Plastics Inspection.

Receiving 10-year pins are Bill Umbenhauer, Inventory Control, and Marie Blythe, Electrical Fabrication.

Five-year emblems were presented to Orv Kyler, Helen Baderschneider and Bob Cruz.



## Northrop Seeks Pay Board Approval of Wage Increase

Northrop Corporation applied to the Federal Pay Board on Friday, Jan. 7, in Washington, D.C. for approval to increase the wages of its hourly employees at three Southern California divisions to levels that will be equal to those that will eventually be approved for the aerospace industry.

Approximately 2,500 employees in the Aircraft, Electronics, and Electro-Mechanical Divisions and Corporate office, were included in the application for increases.

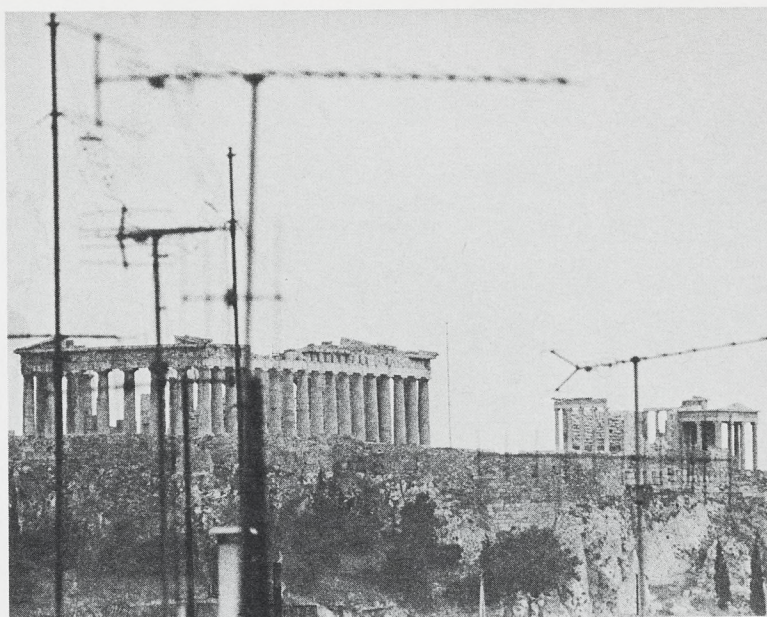
Not affected by the application are Northrop employees at Newbury Park who are represented by a union.

The Federal Pay Board did not act on the company's application, deferring action until guidelines

for all West Coast aerospace companies are established.

Frank Smith, Corporate director of Industrial Relations, stated that the delay by the Pay Board would mean that hourly general increases announced on Dec. 16, 1971, would not appear on paychecks issued Jan. 14, but he was optimistic that a decision would be forthcoming in the near future which would allow a general increase retroactive to Jan. 1, 1972.

Mr. Smith stressed that the Pay Board's action would not affect normal January reviews for salaried personnel as these reviews are not subject to prior Pay Board approval.



TELEVISION ANTENNAS FRONT GREEK RUINS  
Northrop is helping bring TV to residents of all of Greece.

## Subcommittee Works for Safety

Creation of a new Safety Subcommittee of Northrop's Interdivisional Industrial Relations Committee has been announced by Frank Smith, Corporate director of Industrial Relations.

Mr. Smith indicated the new subcommittee provides Northrop with a broad base for reviewing and eliminating the potential for work related injuries and illnesses. It will strive to help preserve Northrop's outstanding reputation for providing safe work places and operating procedures.

Al Van Der Most, Electro-Mechanical Division, is the subcommittee chairman. Members include Paul Crews, Aircraft; John Felder, Corporate Laboratories; Harry Clark and Joe Rahiya, Electronics; Frank Lund, Ventura; and Dale Albee, Northrop Architectural Systems. Dr. Richard Krebsbach, Aircraft, Tom Duffield, Corporate Insurance, and Bill Waysman, assistant Corporate counsel, are ex-officio members.

## NORTHROP YEARS

Northrop Personnel Activities outlets continue to offer a pictorial history of Northrop contributions to the advancement of aeronautics in the form of a 42-page booklet.

Called "Flying Through the Years," the booklet includes 19 full color photographs of historic Northrop aircraft, plus descriptive texts on each aircraft. The price is just \$1 per book.

## Northrop Subsidiary Installing Modern Television Network for All of Greece

*(Editor's Note: Les Daly, Corporate director of Public Affairs in Europe, the Middle East and Africa, wrote the following article. We felt employees would find it an interesting report on how Northrop is helping bring something new to an ancient corner of the world.)*

If you've ever thought of sailing off to a Greek island "to get away from it all," forget it; "all"—spelled TV—is coming to the Greek islands, too.

By the end of this year, one of the most modern television networks in Europe will be in operation here, reaching into nearly every Greek home from the shadow of the Acropolis to the hundreds of sunny islands scattered all across the Aegean Sea.

Although the very word owes its origin to the ancient Greek 'tele,' meaning distant, the individualistic Greeks are almost the last Europeans to succumb to the worldwide invasion of television. Now, only isolated Albania remains without television.

The elaborate network, which includes FM broadcasting and a global shortwave system, is being built for the National Radio and Television Corporation by Page-Europa, an Italian subsidiary of Northrop Corporation, under a \$12.5 million, two-year contract. Company officials say the ambitious project is one of the few such programs in the world in which an entire system is being installed at once, rather than built

up gradually over a number of years.

Center of the network is, of course, Athens, the political, economic and cultural capital of the country where one in every five Greeks lives and works. At the same time, some 60 per cent of the country's 9 million citizens live in villages of less than 5,000. In order to reach them, transmitters have been built all across the country's mountainous face and in such exotic island sites as Crete, Corfu, Rhodes and Lesbos. Five of the transmitters stand like a picket fence along the country's northern frontiers with Albania, Yugoslavia and Bulgaria.

### All But a Few

With the present system, television can reach all but that small percentage of the population which is tucked away behind certain mountain ranges that form a "television shadow." It is expected that ultimately they will be covered as well.

In an interesting example of corporate cooperation, the Page-built transmitter outside Chania, Crete, will bring television entertainment to the personnel at the NATO Missile Firing Installation there—including the seven-man Northrop Ventura team providing the target services program for the various NATO missile crews that use the facility. The Page TV transmitter near Volos, in eastern Greece, will probably help to brighten the evenings for the Northrop Aircraft Division team

serving as technical representatives with the Royal Hellenic Air Force squadrons flying Northrop F-5 tactical fighters. Page takes care of its own too; the PCE team completing the giant Voice of America transmitter at Kavalla will tune in to the Page-Europa television transmitter of Pangeon, just a few miles away.

The TV network is currently transmitting black and white television about three hours during the daytime and six hours during the evening. The system also has provisions for additional channels and for color television—either the German PAL or the French SECAM technique to make it compatible with its American counterpart. Like the United States, but unlike most European countries, Greece stepped directly into commercial television, with a wide range of advertisements already sprinkled liberally throughout the programming day.

The Northrop-Page designed system includes two mobile TV studios and a modern, sophisticated permanent studio now under construction about 10 miles from here. The new facilities will enable the national network to tie into the continent-wide Eurovision system and, eventually, into satellite television.

The giant short-wave complex 35 miles from here provides two 100 kilowatt transmitters for worldwide coverage on all frequencies and is one of the most powerful in the Middle East.



# Northrop International Staff Fills Key Roles

Over the past decade, as Northrop business interests have multiplied many-fold in the major market places of the world, the services and talents of a small group of employees have assumed ever-increasing importance.

They are the men and women of Northrop International.

Northrop Vice President C. Robert Gates and a small staff at Century City guide the efforts of this unique group.

However, many of the day-to-day tasks fall to those on duty in 10 Northrop International liaison field offices. The locations of these offices—Paris, Oslo, Rome, Tehran, Beirut, Madrid, Athens, Bangkok, Taiwan and a special office for Latin America located at Century City—mirror Northrop's current worldwide business involvement.

Relying upon rare combinations of skill, talents, background and training, these individuals serve as representatives of all Northrop operating elements. They must know precisely what is taking place in every Northrop project, program or proposed effort in the vast geographical territory they cover.

More they must remain acutely tuned to conditions in the countries they serve, ranging from the present political "climate" to the temperaments of the leaders, the requirements of the nations they serve and how they fit into inter-

national conditions. They brief and de-brief all Northrop visitors to these countries to assist them in carrying out individual and group missions, and provide continuity to Northrop's many international marketing objectives.

Typical of the rare breed of men who fill these assignments is Geoffrey Parsons, a Northrop International vice president and



Geoffrey Parsons

manager of the Paris office.

The Paris office is the oldest of Northrop's overseas offices, dating back to 1957, and Mr. Parsons is the dean of Northrop's International field office managers, having served in Paris since that time.

Mr. Parsons likes to recall the exchange between himself and Whitley Collins, then Northrop's president, that led to his joining Northrop and opening the Paris office.

"Mr. Collins tendered the job offer and I protested that I knew nothing about the aircraft business," he says. "Without batting an eye, Mr. Collins countered with 'then it's a fair exchange,

since in California we know almost nothing about Europe.'"

Geoff Parsons speaks fluent French and is able to "get by" in other European languages. When he was a lad of 12 years, his parents spent 18 months in France while his father researched a book subsequently published under the title of "The Stream of History."

Following schooling at Harvard, Mr. Parsons joined the Boston Globe as a reporter in 1931. Six years later he opened the Middle Western Bureau of the New York Herald Tribune in Chicago, covering a "beat" that stretched from Cleveland and Detroit to the West Coast.

## On The Scene

Before Pearl Harbor, in September 1941, he went to London as a war correspondent. He covered World War II from Britain, with the exception of time out to report from Algiers in 1943.

Within a few days of the liberation of Paris in 1944, Geoff Parsons was dispatched there to prepare for the resumption of the publication of the Paris Edition of the Herald Tribune which he edited for the next seven years.

In October 1950, Mr. Parsons was recruited to join the newly born North Atlantic Treaty Organization where he served seven years as chief of Press and Public Relations and director of Information.

He feels that this experience provided him not only with a basic understanding of the defense and political problems of the Atlantic Alliance, but also a wide acquaintance with the key personnel in foreign and defense ministries in Europe. "Many of the relatively junior people I met

in the NATO delegations then have matured and moved upwards into key positions of responsibility today," he says.

Geoff Parsons and his wife, Drue, live in an apartment in the heart of Paris.

"Our building was constructed as a part of a real estate promotion under Louis XIII in the 1630's," he says. "The elevator is slightly more recent."

The Parsons were married in Paris in 1945.

Drue Parsons grew up in Santa Monica, followed a film career in Hollywood and acted on the stage in New York and London. Her first husband, a Frenchman, was killed in Syria while serving with the Free French forces.

Mrs. Parsons lived in Paris during the German occupation period. As an active member of the French Resistance she harbored 30 Allied flyers and helped them to escape, receiving for her deeds decorations from the French, British and United States governments.

The first Northrop European office was located in the Parson's apartment, later moving to 12 Avenue Hoche and still later to its present location at 12 Rue Hamelin.

**(Editor's note: Northrop News will present profiles of other key Northrop International personnel in subsequent issues.)**

## Godfrey Receives Top Jaycee Honors

A Ventura Division contracts administrator has been awarded one of the highest honors of the Junior Chamber International.

Forrest W. Godfrey, active in numerous civic and community activities, has been named a JCI Senator.

A past-president of the sponsoring Camarillo Jaycees, Mr. Godfrey joined the club in 1963 when he also joined Northrop. He held several Jaycee posts, including district governor and state director.

Mr. Godfrey is a trustee of the Pleasant Valley School District, president of the board of trustees of his church, and has served on the Ventura County Selective Service (Draft) Board since his appointment by President Nixon in 1969, to name a few.



Mr. Godfrey

## Credit Union Sets 6% Dividend Rate

Northrop Credit Union has paid its shareholders another semi-annual dividend of six per cent.

The latest dividend was paid on deposits of record Nov. 30, 1971, and was posted to accounts Jan. 1, according to Credit Union President Glenn Thornton who announced the dividend for the board of directors.

Mr. Thornton noted that the dividend, when compounded semi-annually as the Credit Union does, actually amounts to an annual rate of 6.09 per cent.

Northrop Credit Union offers Northrop employees a systematic method of saving via payroll deductions. It also provides members with low cost loans for the purchase of new or used automobiles, trailers and campers, as well as homeowner and personal loans.

## Robert R. Miller Mourned

All Northrop personnel were saddened last month with the death of Robert R. Miller, 68, who passed away at Santa Monica Hospital after a brief illness.

Mr. Miller retired in 1968 as a Northrop senior vice president, but continued to serve the company as a consultant. He was also a member of the Northrop Corporation board of directors as well as a member of the board of three Northrop subsidiaries, Page Communications Engineers, Northrop Architectural Systems and Northrop Carolina, Inc. In addition, he was a director of the Northrop affiliated company Construcciones Aeronauticas, S.A. of Spain.

A graduate of the University of California at Berkeley, Mr. Miller was an executive in investment and manufacturing fields before joining Northrop in 1951. He served as assistant to the vice president for Customer Relations, vice president for Administration, and vice president and general manager before becoming a senior vice president.

Mr. Miller is survived by his wife, Mary; a brother, Howard Miller of Santa Monica; and a sister, Mrs. Marion Vallat of Calgary, Canada.



**JERRY TORGERSON****Young Gridder Picked for All-CIF Team**

Jerry Torgerson, the youngest son of Ventura Division Senior Engineer Russ Torgerson, had an outstanding high school gridiron career capped by his selection to the All-CIF 'AAA' division first team.

Young Torgerson quarterbacked his Newbury Park High Panthers to a Marmonte League championship for the second year in a row. Last year he was third team All-CIF (Southern Califor-

nia).

His passing and running performance resulted in 2,288 yards gained in nine games and also earned him Marmonte League Player of the Year honors for the second consecutive season.

Although just 5'10" and weighing 155 pounds, Jerry ran the I-formation quarterback option play to perfection. The team he co-captained averaged more than 30 points per game.



**JERRY TORGERSON CARRIES THE MAIL**

Northrop son made All-CIF team. (Thousand Oaks News-Chronicle photo.)

Jerry's father, a 10-year Northrop employee, credits "competition with his older brother over the years," as a major contributor to the young man's success.

"His brother, David, is five years older than Jerry and Jerry always tried to keep up with him athletically," he said.

Aspiring to such high standards has resulted in a top baseball performance, too. Jerry has been an all-league shortstop for two years and no doubt will repeat this spring.

Brother David's baseball prowess led to a contract with the San Francisco Giants organization, although he is now attending Miligan College in Tennessee.

**Colleges Want Him**

Jerry's college plans are not definite. He has been offered an Air Force Academy nomination and has had feelers from Oklahoma, Stanford, New Mexico State and Yale (his academic grade average is 3.75).

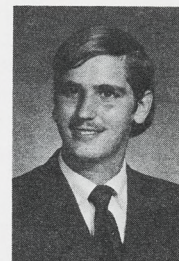
Does he aspire to professional sports? "I don't think he'd pass it up," his father commented, "but ideally he'd like to be an airline pilot and live on a ranch."

At 17, though, his plans remain flexible while his athletic and scholastic foundations are very solid.

**Bruce Parr Is Selected for Who's Who List**

Bruce Parr, son of Stan Parr, of the Electronics Division, has been selected to have his biography published in Merit's "Who's Who Among American High School Students."

The publication is the largest and leading volume in the field of student achievement books. It is widely acclaimed and recognized by educators, government, industrial and religious leaders.



**Bruce Parr**

Bruce, 16, is a senior at John F. Kennedy High School in La Palma. He is an honor student (3.9 grade average) and a member of the California Scholarship Federation.

His other activities include editing the school's yearbook, serving as a teacher's aid, playing in band concerts and photography.

Bruce plans to continue his studies this fall at Cypress Junior College. His present career objective is to become a lawyer.

**MEETING SET**

Northrop Credit Union will hold its annual shareholders' meeting at 5 p.m. Feb. 1 in the Aircraft Division's Plant One cafeteria. Shareholders of record on the books Feb. 1 will be entitled to vote at the meeting.

**Researcher Does Strange Things in Tests**

A Northrop researcher under a NASA contract at Langley Research Center is putting round pegs in square holes, reading backwards, and having a blinking time with lights.

This is part of a study of noise pollution — its sources and its effect upon human beings. The researcher is daily subjected to sounds of low flying aircraft while performing exacting mental and physical tests.

In one part of the tests he sits in front of a panel of blinking lights which are computer controlled. He must match light sequences by the use of two levers and pedals. Periodically his work is interrupted by the loud noise of low flying aircraft. The objective of the test is to measure the

reaction and efficiency of the operator when noise interrupts.

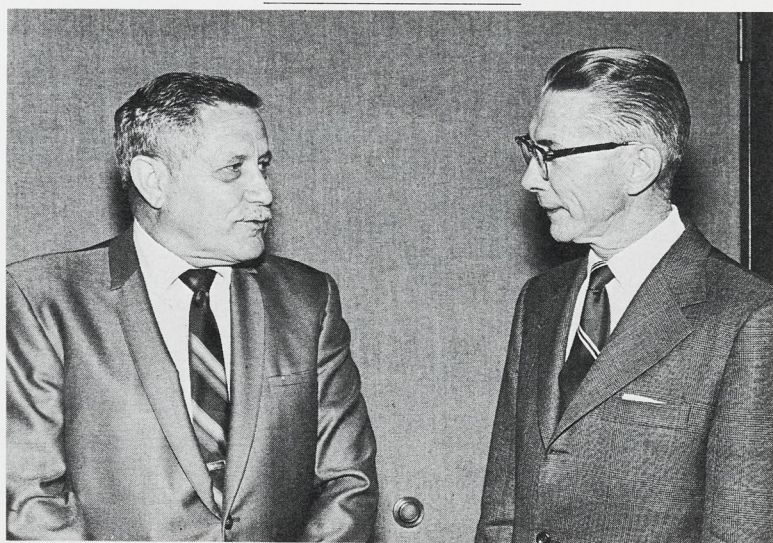
Other problems that must be solved in an environment of noise include a multi-dimensional performance test based on the old square pegs in round holes game. It is designed to study man's ability to do problems in a limited time under sound stress.

In another test the researcher must put a phonograph needle inside small circles on a spinning turntable while loud noises fill the room. Still another test involves a mirror device where writing must be read and defined backward.

The program has been under way for the past two years under the direction of Dr. Randall M. Chambers of NASA's Human Factors Branch. The Northrop man on the program is Bill Eaton, Northrop Services Inc.'s program manager at Langley. Northrop Services Inc., an operating unit of the Electro-Mechanical Division, is under direction of William J. Oakes.

According to Dr. Chambers,

valuable data has been collected relative to human reaction to noise which will aid in long range noise abatement programs.



**TWO KEY NORTHROP** men who have assisted many retiring employees in planning their futures have recently joined the ranks of retirees. At left is Harry Belcher of the Electro-Mechanical Division who completed 30 years with Northrop and at right is Howard Sizemore, Corporate administrator of Retirement and Savings Plans, a veteran of 20 years.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- Opel**, 1970 GT, fully equipped, 102 h.p., \$2,400. 213-644-3111.
- Volkswagen**, 1970 Camper Bus, new tires, pop top, \$2,995. 213-370-9813.
- Volkswagen**, 1969, r/h, 4-spd. trans., \$1,550. 213-326-7084.
- Jaguar**, 1959, XK 150, new Koni shocks, paint & convt. top, \$1,050. 714-622-2757, 213-398-7155.
- Comet**, 1960, new tires, batt., \$225. 213-371-8867.
- Datsun**, 1971, 2-dr. sedan, stick shift, r/h, 16,000 mi., \$1,695. 213-547-3837.
- Mustang** 2+2, 1965, 4-spd., V-8 fastback, r/h, \$595. 213-679-3889.
- Falcon**, 1968 2-dr., auto., r/h, p/s, \$900. 213-671-4550.
- Pickup**, 1963 Chev., 1/2-ton, V-8, auto, trans., r/h, a/c, 32" camper shell w/boot, \$1,225. 213-671-9231.
- Ford**, 1967, Gax-500, V-8, convt., r/h, a/c, \$950. 714-839-8833.
- Fiat 1200**, custom body, 1961 convt., 4-spd. stick, \$375. 213-633-2990.
- Honda 600**, 1971 sedan, radio, shop manual, 42 mpg, \$1,095. 213-325-3057.
- Rambler**, 1962 Classic 6 sedan, needs work, \$50. 213-541-1277.
- T-Bird**, 1963, full power, a/c, \$425. 213-374-4703.
- Metropolitan**, 1959, h/top, \$125. 213-862-8783.
- Pontiac**, 1968 Catalina, 4-dr., 58,000 mi., new tires & batt., \$1,050. 213-377-2968.
- Renault R-8**, 1963, 4-whl. d/brakes, r/h, \$250. 213-831-9589.
- Plymouth**, 1965 Valiant, 4-dr. sedan, r/h, 225 cu. in. 6 eng., auto. trans., \$350. 213-375-4747.
- Cadillac**, 1962 h/top, 4-dr., full power, \$375. 714-523-5389.

## Miscellaneous For Sale

- Tapedeck**, AKAI M-8 & recorder w/spkrs., mikes, headphones, \$150. 213-866-7457.
- Theater Organ**, 2-manual, 32 note pedal, 53 stops, amplifiers & spkrs., \$2,000. 714-539-1531.
- Manual**, Motor's auto repair, 26th edition, 1953-1963, \$5. 213-375-1685.
- Typewriter**, IBM elec., \$165. 213-673-5614.
- Acreage**, 5 acres, Antelope Valley, some paved frontage, \$400 dn., \$6,000. 213-378-1026.
- Trolley Hoist**, 1 1/2 ton cap., runs on straight or curved 5" I-beam, \$95. 213-457-9600.
- Cabin**, lge., 5 acres in Apple Valley, all utls., \$11,500. 213-327-4356.
- Typewriter**, Royal standard, \$225. 213-398-9100.
- Guitar**, Spanish, made in Mexico, instruction books, \$25. 213-676-8817.
- Tent Trailer**, 1966 Travel Mate h/top, sleeps 7, range, ice box, water sys., extras, \$550. 213-798-3002.
- Exercise Bench**, 6 positions, \$15. 213-483-0100.
- Pups**, Chihuahua, pedigree & AKC papers, \$65-\$150. 213-866-1276.
- Bicycle**, girl's 20", \$15. 213-672-3202.
- House**, 2-bdrm., extra wide lot, 60x141, room to build in rear, No. Inglewood, \$19,000. 213-671-6692.
- Camper**, 8 1/2' full cabover, 3-burner stove, ice box, sleeps 4, incl. jacks & awning, \$695. 213-325-2292.
- Dinette Set**, no-mar wood grain oval table w/6 green chairs, \$30. 213-374-7625.
- Motorcycle**, 1971 Honda CB 350, take over \$35 mo. pymts. or \$150. 714-879-2569.
- Mobile Radio**, G.E., 25 w., VHF-FM, \$35. 213-322-6655.
- Table Saw**, 10" Craftsman, w/stand & motor, \$100. 213-674-0880.
- Bicycle**, Peugeot folding-type deluxe, many access., \$60. 213-375-5760.
- Movie Camera**, Bolex, model D8L, 8 mm, pistol grip & carrying case, light bar, \$50. 213-428-3529.
- Guitar**, fender stratocaster Sunburst elec., hard-bodied case, \$200. 213-541-2675.
- Playpen**, Peterson comb. w/pad, \$15. 213-676-6738.

## Miscellaneous For Sale

- Wheel Chair**, folding, \$65. 213-833-5515.
- Bar Stools**, 4 wrought iron, \$20. 714-838-7161.
- Camera**, Rival, 35 mm, w/p&b flash gun, \$20. 714-523-5315.
- Motorcycle**, 1970 Honda SL 90, \$275. 213-377-5897.
- Guitar**, elec., St. George, bltin reverb., \$30. 213-378-4567.
- Fireplace**, standing-type, 65" high, complete w/all hardware, screen, grate, \$200. 213-378-9660.
- Opera Glasses**, antique French, gold & pearl, \$35. 213-379-5652.
- Desks**, 2 children's & chair, \$7.50. 213-376-4831.
- Archery Set**, 50 lb. recurve bow, quiver, arrows, glove, \$15. 213-327-4585.
- Ski Pants**, 3 pr. women's size 10, \$8-\$15. 213-676-3050.
- Shopsmith**, Mark V, full set of attachs. incl. jig saw, \$125. 213-573-1760.
- Motorcycle**, 1969 Honda SL 90, 2,000 mi., \$275. 213-596-2039.
- Speakers**, 2, 15", J. B. Lansing LE 15A, \$65 ea. 213-673-5762.
- Snow Chains**, 3 sets, \$7.50 ea. 213-676-6449.
- Patio Set**, 12-pc. Brown & Jordan, won on TV show, \$1,000. 213-865-8400.
- Acreage**, 40 acres, 175 miles north of L.A., \$395 acre. 213-370-3821.
- Mini Bike**, Taco, new motor, \$80. 213-377-1074.
- Ski Boat**, custom, Higbee hull, 90 Merc. o/b, safety equip., \$1,500. 805-482-0264.
- Chair**, vinyl, avocado green, recliner, \$35. 213-324-8853.
- Ski Boat**, 17' Stevens, natural wood deck, Pontiac eng., vee dr. w/reverse, galv. trailer, \$1,750. 714-528-3630.
- Fishing Equipment**, ocean reels, rods, assorted tackle, \$50. 213-755-6118.
- Trans-Cooler**, Hayden, \$20. 213-375-6114.
- Acreage**, 2 1/2-acre parcels near Palmdale Intercontinental Airport, low dn. pymt. & int., cash discount, \$6,500. 714-673-7752.
- Enlarger**, Omega D-2, 2 lens, 2 condensers for 35 mm & 4 x 5, \$165. 213-373-3098.
- Cabin Cruiser**, 1971 24' Reinell, fiberglass construction, 215 h.p. OMC stern drive, galley, full camper cover w/side curtains, E-Z loader tandem trailer w/surge bks., \$7,900. 805-498-8877.
- Pup**, poodle, AKC, apricot, female, papers, small miniature, \$50. 213-866-4104, 213-429-4150.
- Stove**, Gaffers & Sattler, dble. oven, copper-tone, gas, 2 yrs. old, \$160. 213-644-6325.
- End Tables**, 2, Danish walnut, never-mar tops, \$20 ea. 213-541-3000.
- Typewriter**, portable manual Remington, \$40. 213-396-5837.
- Motorcycle**, 1968 Honda 350, \$450. 213-645-7114.
- Dressing Table**, antique, w/triple mirror, 2 drwrs., mahogany finish, matching small cane seated chair, \$137.50, many other items. 213-474-5726.
- Home**, corner, 2-story, 4-bdrm., 2 baths, f/place, cpts., dps., across from new Los Cerritos shopping center, \$31,900. 213-860-3022.
- Coat**, mink, 3/4 length, autumn haze, never worn, \$395. 213-347-4599.
- Table**, 30", 16" high, Scandinavian oiled walnut, \$35. 213-831-6882.
- Bench Saw**, 10" Craftsman, 1 h.p. mot., stand, exten. table, guard, ex. blades, DADO set, \$130. 213-378-1771.
- Mountain Lot**, Running Springs, Calif., on maintained county road, 1/4 mile from Rte. 18, \$5,500. 213-330-7330.

## Wanted to Buy

- Trailer**, small, for 12' boat. 213-927-5967.
- Aquarium**, 30 to 45 gal., hood, stand optional. 213-423-5398.
- Cadillac**, 1965 or '67 Brougham or sedan De Ville, fully equipped. 213-373-1098.
- Camping Trailer**, self-contained, less than \$2,000. 213-830-1216.
- Sunbeam Alpine**, for parts, 1963-1969, also need h/top. 805-482-3893.
- Bicycles**, man's & woman's, used, preferably 3-spd. 213-545-2577.
- Anvil**, as used for blacksmithing or metal-smithing, 50 to 100 lbs. 213-375-3977.
- Lots**, improved, w/alloys, or 3 to 5 acres suitable for garden apts., must be subject to zoning changes, if not already zoned for apts. 714-828-2857.

## Free (To Be Given Away)

- Pups**, Doberman/German shepherd. 213-323-6786.

# Navy Yacht Club Bestows Honors on Herbert Turner

The Navy Yacht Club of Long Beach has presented its "Yachtsman of the Year" award to Herbert A. Turner, Jr., Electro-Mechanical Division Management Systems. The award is made annually to the member who has contributed most to the club.

Mr. Turner's contributions included helping frame a new constitution, development of fiscal policies, and his leadership in his office of Rear-Commodore. In the general election following the presentation, he was elected Vice-Commodore for the coming year.

The Navy Yacht Club, an organization of active and retired Navy, Air Force and Coast Guard officers and enlisted personnel is devoted to the promotion of sailing and sailboat racing.

With the new concept of

smaller ships in the Navy, new emphasis is being directed to the development of seamanship skills which have generally disappeared in today's fleet of super-ships. Sailboating and racing demands the maximum of skills in dealing with wind, current, and seamanship. Toward this objective, Herb is a member of the Naval Station Advisory Council for Seamanship and Sailing, as well as being a delegate to the Southern California Yachting Assn. and the Newport Ocean Racing Assn.

This involvement with seamanship and the Navy may seem a bit odd for a retired Army officer, but Herb has had an obsession about sailboats since he was nine. He built his first boat at eleven, raced his own Snipe class boat at 16, and became a Sea Scout Quartermaster at 18.

## NORTHROP NEWS

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 3901 West Broadway, Hawthorne, California 90250  
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## Free (To Be Given Away)

**Dog**, champagne, poodle w/a little terrier, female, all shots, approx. 1 yr. old. 213-378-7846.

**Pups**, small, short-haired, male & female, 9 wks. old. 213-329-9625.

## Rentals Offered

**Vacation Home**, Lake Arrowhead, 3-bdrm., 2 baths, walk to lake, beach club privileges, \$140 wk., \$60 w/end. 213-377-3817.

**Home**, Westchester, 1-bdrm., cpts., dps., stove, refrig., air cond., soundproof, carport w/storage locker, water pd., no pets, baby ok, \$150 mo. 213-756-5157.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.

**Garage**, preferably for storage, vic. 117th & Crenshaw Blvd., \$10 mo. 213-756-3669.

**Condominium**, 1-bdrm., in Mammoth, Calif., full kitchen facilities, sleeps 5, \$40 w/end, \$60/midwk. 213-785-1405.

**House**, 3-bdrm., 1 1/2 baths, cpts., dps., bltin stove, Lawndale, children OK, no pets, \$225 mo. 213-676-0044.

**Apt**, Redondo Beach, 1-bdrm., cpts., bltins, central vacuum, gar. w/storage cabinets, 1 month's free rent, \$140. 213-379-6549.

**Home**, living, family, & music rooms, 3-bdrm., 1 1/4 baths, patio, 5 blocks from Aircraft Div., \$250 mo. 213-887-7766.

**Pickup**, w/11' camper, rigged for snow & cold, sleeps 6, \$100 wk. & 5¢ mi. 714-544-0730.

**Apt**, 1-bdrm., unfurn., sub. parking, pool, bltins, cpts., dps., 10 min. to Northrop, \$150. 213-679-1825, 213-670-6084.

**Home**, Torrance, 3-bdrm., 2 baths, family rm., 2 f/places, bltin stove, dishwasher, cpts., dps., fenced yd., \$370 mo. 213-373-1933.

## Found

**Earring**, Indian silver, parrot-shaped w/green jade, at Ventura main gate, call Ventura ext. 329.

## Personals

It's been a privilege to have known & worked with so many nice people at Northrop. Thanks for the retirement parties & gifts. JOHN STRASSER.

I wish to express my gratitude to all of you with whom I have worked & to thank all of my many friends at Northrop for helping to make my retirement a happy one. My best wishes to all of you. HOWARD SIZE-MORE.

On the occasion of my retirement from the Electro-Mechanical Div., I'd like to say Aloha to all my dear friends with whom I've worked during my 11 1/2 years with Northrop. THELMA GRADY.

Thank you for the kindness & sympathy expressed on the death of my husband, Bill McGill. Due to your generous contributions an educational fund of over \$500 has been established for our son. VIRGINIA MCGILL.

We wish to thank N.A.R., N.R.C. & fellow employees for the beautiful flowers & kind expressions of sympathy in memory of our father, Chris H. Graber. ALLEN C. GRABER & GLADYS TELFORD.

I would like to thank everyone for the understanding & sympathy expressed at the passing of my mother. ED KONG.

**Ironing**, by piece or hour. 213-371-5075.

**Ride Wanted**, 8 a.m.-4:42 p.m., near Hawthorne & Torrance Blvds. to NCL bldg., Aircraft ext. 1281, 213-542-2390.

**Ride Wanted** on Car Pool, 8 a.m.-4:42 p.m., 135th & Spinning Ave., Gardena to Engineering Science Center, Aircraft ext. 2313.





**MAKING PLANS FOR 1972** in International Marketing at the Ventura Division last month were several Venturans as well as three men from overseas. From left, Ray Lavi, Stiles Burke, Bob Flink, Peter Burton (from Belgium), Ralph Friesen (from NAMFI on Crete), Ben Collins, John Granger (from England) and Paul Lawrason. Topic was aerial target service and sales. Mr. Burton and Mr. Granger are Northrop agents in Europe. Mr. Friesen heads Northrop's NAMFI operation.

### LEARNING HOW IT IS

## Student Spends Month at Ventura

A 28-year-old California Lutheran College student spending a month at the Ventura Division feels the work experience offers a good comparison between "textbook applications and actual on the job practice."

Neal Dossett is spending this month working in the Financial Management Department as part of Cal Lutheran's new "interim program" which offers students a month in the middle of the year for independent study.

Mr. Dossett will write a report on his experiences — renegotia-

tion of contracts, internal audit, data processing, and general accounting procedures — at the end of the month for college credit.

A veteran of four years in the Air Force, the native of Hattiesburg, Miss., is attending CLC on the GI bill and will graduate in June with a major in management.

"This month gives me a chance to find out if I really like the work, rather than if I like the field strictly academically," he said.

And he likes it academically. Cal Lutheran doesn't offer advanced accounting classes so he is taking those at Valley State College in Northridge.

Since he lives in Oxnard with his wife and twin 3-year-old boys, the travelling takes up lots of time. Even so, when he returns to CLC in February he'll assume the elected post of student senator at the Thousand Oaks school.



NEAL DOSSETT

## Huss Co-Authors Analysis Paper

Ronald E. Huss, of Pricing and Estimating at the Ventura Division, has co-authored a paper which was presented at the Conference on Applications of Numerical Analysis at Dundee, Scotland, last year.

"Computation of the Moments of Solutions of Certain Random Two-Point Boundary Value Problems" is the title of the paper he wrote with Dr. Robert E. Kalaba, professor of electrical engineering at the University of Southern California.

The paper deals with a new numerical technique for solving certain types of engineering problems for which analytical techniques were previously unavailable. It is one of several he has written in the course of his work toward a Ph.D. degree in biomedical engineering at USC.

## REC CLUB GIVES FIFTY TURKEYS

Fifty Ventura personnel and their families enjoyed the Thanksgiving turkey dinners courtesy of the Recreation Club.

Through random drawing the Rec Club awarded 50 certificates which were redeemed at local supermarkets for the big birds.

"The Rec Club has done this for a number of years and the response is always very favorable," noted Rec Club President Bob Calhoon.

## Rec Club Elects '72 Officers

A slate of Ventura Division Recreation Club officers has been elected to serve in 1972.

Bob Calhoon, who spent half of his term on loan to the Aircraft Division, will be the president again and Bill Umbenhauer repeats as vice president.

Also repeating are Betty Reinisch, secretary; Tony Piscuskas, treasurer; Dorothy Prychoda, past president/advisor; and Chuck Simmers, Industrial Relations representative.

New to the Rec Club Executive Committee is Paul Potter. He succeeds Fred Howard as sergeant-at-arms. Mr. Howard was chairman of the nominating committee.

Commissioners to represent the 13 active clubs under the Rec Club wing are now being elected by individual club members.

## RAY LAVI GETS MASTER'S DEGREE

Ray Lavi, manager of the Target Systems Project office at the Ventura Division, has been awarded a master's degree in business administration.

Mr. Lavi's MBA marks the completion of a year-long course of study in a Northrop-sponsored program with Pepperdine University.

He already holds bachelor's and master's degrees in aeronautical engineering.



WARREN L. SPARKS holds a special Christmas present as General Manager Welko E. Gasich presented him with a Community Relations Commendation for his untiring service to the Conejo Valley community. Mr. Sparks, manager of Production and Inventory Control at Ventura, is active in many volunteer capacities, chiefly at Cal Lutheran College.



# NORTHROP NEWS

VENTURA DIVISION EDITION

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AT FINAL T-38 DELIVERY CEREMONIES  
Ventura's Harry Parker, left, and test pilot Lew Nelson.

## HEADS AERONAUTICAL SYSTEMS

### Joseph H. Staley Returns

Joseph H. Staley, new program manager for Aeronautical Systems, is returning to the Ventura Division after many years of management experience at other Northrop facilities.

Mr. Staley was appointed by General Manager Welko E. Gasich to succeed Ben F. Collins Jr. Mr. Collins has been promoted to an Aircraft Division assignment overseas.

Joining Northrop at the Aircraft Division in 1950, Mr. Staley transferred to Ventura (then-Radioplane) in 1954. He was active in several target programs, including the role of RP-76 program manager, before moving to

a management position at Northrop's Electro-Mechanical Division in 1960.

His latest Northrop assignment was as deputy 747 program manager at the Aircraft Division. He is a graduate of Purdue University.



Mr. Staley

In his new position, Mr. Staley will be responsible for all programs in the division's aeronautical systems product areas including targets, tactical weapons and RPV's.

### Safety Display Shows New Ideas

Safety on the job is something everyone takes for granted—until someone gets hurt.

Harry Parker, chairman of the General Safety Committee at the Ventura Division, wants to change all that.

"We decided to put up a display that would be changing constantly with new and different safety ideas," Mr. Parker said. The result is a safety display case in the Manufacturing building near the Metrology Lab.

Displayed in the case is virtually every safety device which can be obtained by Ventura per-

sonnel in the Manufacturing Tool Crib.

"We left some room in there for different announcements, posters and attention-getters so everyone will become more safety-minded," Mr. Parker added.

Mr. Parker's committee is charged with not only making certain that working areas and conditions are safe but that all the personnel are "safety-minded all the time."

It's a challenging responsibility, but the rewards are obvious—fewer needless injuries and an improved working environment.

## Venturans See Last Talon Delivered at Palmdale Ceremony

Northrop delivered the last T-38 jet trainer to the Air Force earlier this month and for many people at the Ventura Division the event was met with an ironic sense of happy sadness.

Everyone praised the T-38 as the 1,187th aircraft was displayed next to the original plane.

Sharing the accolades in spirit if not in person were the many Northrop personnel who participated in this highly successful program.

Definitely included in that praise are Ventura personnel who produced the ejection seats and nearly 100 separate plastic parts per shipset for the jet trainer.

"It's always sad to see the last bird delivered," said Harry Parker, manager of Quality Control at Ventura and one of four original project engineers on the T-38 at the Aircraft Division in 1956.

"But the T-38 Program was so successful it's a happy occasion, too," he added. Mr. Parker was on hand at Northrop's Palmdale facility for the ceremonies.

Turning the aircraft over to Brig. Gen. Mike McCarthy, chief of staff at the Air Force's Air

Training Command, were Welko E. Gasich, general manager of the Aircraft and Ventura Divisions, and Northrop President Thomas V. Jones.

Also participating in delivery of the last Talon were Air Force's Brig. Gen. D. G. Nunn, commander, AFCMD, and Col. J. R. Lindsay, deputy director, F-5/T-38 SPO.

The sleek white bird had a time-to-climb record when it was

(See TALON, page 6)

## Target Collecting Pays Dividends

Sometimes being a collector pays off.

Two years ago, E. Howard Gee of Los Angeles, fished part of a Northrop MQM-74A from the Santa Barbara Channel where it had been used in Point Mugu target exercises.

Mr. Gee took it home, washed it down and stowed it in his garage. Recently advised of the Navy's interest in the target, Mr. Gee called the Naval Missile Center.

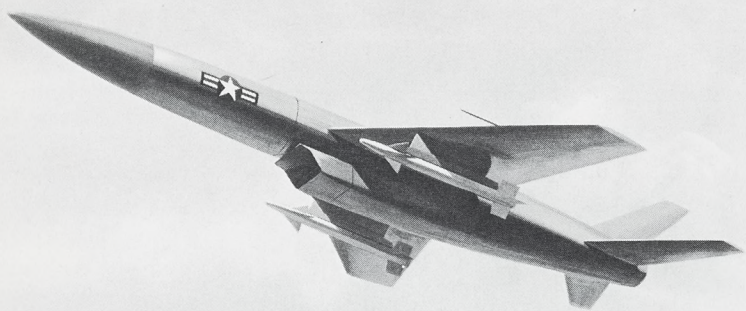
He then collected \$200 when the Navy got the target back.



### CHECKING SAFETY EQUIPMENT DISPLAY

Buck Gilmore, at left, with, from right, Bill Glen, Mary McDaniels, Marie Bartz and Wilbur Leeds.





**VENTURA'S RPV CONCEPT**, one of several Remotely Piloted Vehicle designs conceived by Ventura Division engineers, is this air-to-air model. Other RPV's would have air-to-ground, surveillance, and interdiction capabilities. Ventura is currently studying the RPV approach to tactical systems for the U.S. Air Force. Ventura artist Jack Calder provided the rendering.

## O'Halloran, Leavenworth To Fill Top NORAD Posts

Dan O'Halloran has been named chairman of the board of directors and Doug Leavenworth president of NORAD, Northrop's in-house charity organization, at a January meeting.

Mr. O'Halloran, Chuck Benson, Paul Jacobs, Whitey Lowe, Frank Mathes, John States and Sal Xifo represent the Aircraft Division; Mr. Leavenworth Electro-Mechanical; Lloyd Jones Electronics; and Frank Smith the Corporate office, on the board.

Mr. Xifo serves as vice president, Ernie Boren as treasurer and Marie Tully as secretary for the coming year. Mrs. Tully has been re-appointed administrator, Jo Roth of the Aircraft Division, deputy administrator, and Rudy Rivero, accountant, for another year.

The Hawthorne Aircraft Division NORAD committee is chaired by George Matuskey and includes Floyd Boggus, Lucianna Clack, Ted Garvey, Bill Hayman, Jo Roth, Bill Steen, Larry Brown and Jim Zimmerman. The Edwards AFB committee is comprised of Les Ferguson, chairman, Frank Harrison and Frank Ramme, while the Palmdale Committee is chaired by Guy Patt and includes Eutha Dame and W. W. White.

## MOUNTAINEERS

The Northrop Mountaineers will join with the Hundred Peaks Section of the Sierra Club in sponsoring a weekend of activities at Joshua Tree National Monument Feb. 26-27.

Harry Clark chairs the Electronics Division committee comprised of Roland Gagnon, Eloise Howell, Hollis Smith and Donald Weaver.

Duane Baptiste chairs the Electro-Mechanical Division committee with William Carey, Carl Jensen and Sally Moore as members.

Charles White, chairman, and Marlin Sloan and Riley Ponder comprise the Huntsville, Ala., committee.

## MARIE MURNANE RETIRES

### That Friendly 'Hello' Turns to 'Goodby'

After 28 years of saying, "hello" to Northrop telephone callers, Marie Murnane is saying, "goodby."

Mrs. Murnane, communications manager, Aircraft Division, retired Feb. 4, after working with Northrop since September 1943.

Mrs. Murnane started her telephone career with the Bell System in her hometown of St. Paul, Minn., "Probably because I was always fascinated by the telephone."

In 1937, she came to California with her husband and son and worked for a short time as a secretary. A friend informed her of an opening at Northrop for a switchboard operator. Marie decided she would rather sweat over a switchboard than a typewriter and she joined Northrop in 1943, working in the telephone and telegraph sections

## Top Technical Team Preps Lightweight Fighter Bid

"Northrop has staffed its Lightweight Fighter team with a group of men whose heritage of lightweight fighter technology is unequalled in the U.S. aviation industry."

With these words Welko Gasich, Aircraft Division general manager, announced Northrop's intentions to compete in the USAF Lightweight Fighter Prototype competition and named Walter E. Fellers to head a special team of experts assembled for the task. Proposals in this prototype aircraft competition are due this month.

Mr. Fellers, who reports directly to Mr. Gasich in this assignment, is an internationally recognized leader in the field of research and development involving fighter aircraft. As manager of Advanced Systems, he has led the development of air combat analysis techniques and fighter design technology.

Since the 1940's, Mr. Fellers has been engaged in the development of primary fighter aircraft. Before joining Northrop, Mr. Fellers was a key member of the North American Aviation design team that developed the P-51, F-86 and F-100 USAF fighters and the FJ-1 Navy fighter.

Mr. Fellers has played leading roles in developing such highly successful Northrop aircraft as

the T-38 trainer and the F-5 fighter. He was responsible for the advanced design of Northrop's A-9 entry in the A-X competition. He is one of the men intimately involved in developing the Northrop P530 Cobra air superiority fighter.

Mr. Fellers is one of the early supporters of the theory of air combat maneuverability which has become a design criterion for new fighter aircraft emphasizing air combat superiority.

## Mexican Chamber Tabs Ed Aguilar

Northrop's Ed Aguilar was installed recently as the first vice president of the Mexican Chamber of Commerce of Los Angeles.

Mr. Aguilar is head of the Aircraft Division's office machine repair function and a Northrop 20-year veteran. He has been a member of the Mexican Chamber for many years, a director for eight years and previously served as its treasurer.

Acutely interested in Mexican-American affairs, Mr. Aguilar has served as a Northrop representative on the Vice President's Task Force on Youth Motivation, in various Equal Opportunities programs, and as a membership drive worker for the Chamber.



Marie Murnane

all," she said. "This is not a very large number of people, our turnover of operators on the switchboard has never been great. I served under five Corporate presidents and five department managers."

Mrs. Murnane said that her 28 years at Northrop have been . . . "fascinating. After a while you learn to recognize voices and can tell a great deal about an individual just from the tone of his voice. The corporation's activities have become so far flung and diversified, that you never can tell when a call is coming from some exotic foreign land or locally, especially since technical improvements and the implementation of satellites have vastly improved transmission quality."

Receiving calls from the White House, or attempting to locate employees for emergencies, Marie has handled them all.





DIGNITARIES taking part in delivery of final T-38 Talon are backed by the first T-38 delivered, left, and the last. Welko Gasich, Aircraft Division general manager, serves as emcee above. Below is Brig. Gen. D. G. Nunn, commander, AFCMD, turning over kingsized check to Mr. Gasich and Northrop President Thomas V. Jones symbolic of final payment in a program that has extended well into its second decade.



# Final Talon Delivered At Palmdale Ceremony

## Tributes to The Talon

**Brig. Gen. Donald G. Nunn, commander, AFCMD, USAF:**

*"I am delighted that Northrop Corporation built an airplane that did what they promised it would do, delivered it on a schedule they said they would deliver it on, and did it for the money they said it would cost."*

**Brig. Gen. Michael C. McCarthy, chief of staff, ATC, USAF:**

*"I have never heard anyone describe the T-38 as anything but a beautiful airplane. It is reliable in every parameter, a great performer, a remarkable airplane. It is a tolerance airplane, one that has passed the test of time to become more reliable with age."*

**Col. John R. Lindsay, deputy director, F-5/T-38 SPO, ASD, USAF:**

*"The T-38 Program easily qualifies as one of the most successful Air Force programs ever, as to costs, schedules, operational suitability and safety."*

**Thomas V. Jones, Northrop president:**

*"The T-38 Program stands as an inspiration of what can be done when people with courage and imagination using innovative approaches work together as a team to solve a specific need. We owe much to a small group of people who believed in this approach and worked with us."*

**Congressman Barry M. Goldwater, Jr.:**

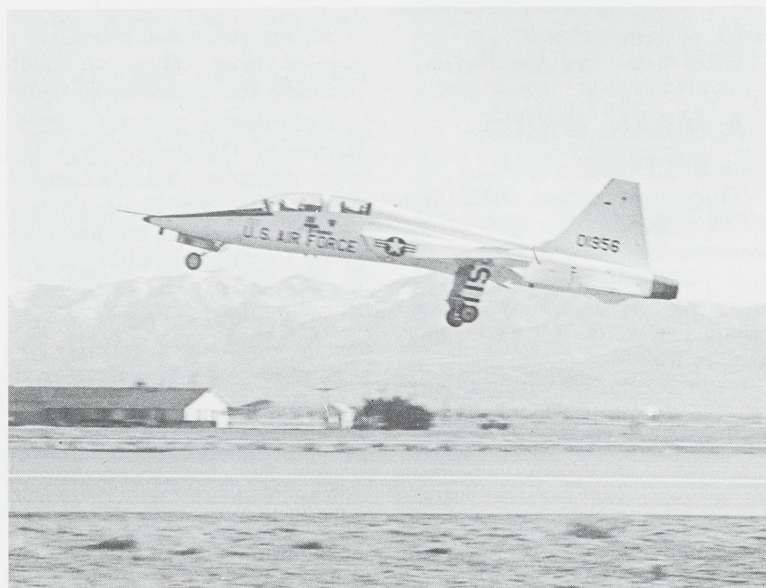
*"This Air Force-Industry team effort stands as a model in military aircraft procurement, a well-run effective program resulting in a high performance product at the lowest cost. The taxpayer would gain if all our federal programs, non-defense as well as military, met the same standards of efficiency."*

**Aerospace Daily:**

*"The T-38 project was unusual in that over a manufacturing span of 11 years the Air Force found no need to make a model change. Moreover, all deliveries without exception were on time and on cost. Five years after it went into service, the T-38 cost about 60 per cent less than when deliveries were begun despite inflation and cost escalation."*



COL. J. R. LINDSAY, deputy director, F-5/T-38 SPO, called T-38 Program one of most successful Air Force procurement programs ever.



BREAKING GROUND on a flight from Palmdale to Randolph AFB, Texas, is the final Northrop T-38 delivered, the 1,187th ordered for use by the Air Force, Navy, NASA and the German Air Force.



READY TO FLY — Brig. Gen. M. C. McCarthy, left, and Lt. Col. Vince Roy sign final documents with Northrop Inspector Al Harding prior to flight.



## Birthday Edict Returns Williams to Greenhouse

M. R. (Bill) Williams had a choice. He could start growing orchids again or he could return his birthday present.

This came about because Mr. Williams had previously grown orchids while serving with the Air Force in Hawaii, but had given up the hobby when transferred to colder climates. As the years passed he often spoke of building a greenhouse and resuming his hobby.

He did nothing about it until 1966 when his doctor recommended a hobby as therapy for an ulcer attack. His four children pooled savings from their allowances and gave him money as a birthday present. There was a stipulation that he had to use the money to build an orchid greenhouse or return it.

With this incentive he started again and today has two greenhouses with 600 plants of some 500 varieties producing blossoms ranging from one-quarter

inch to some as large as 11 inches across. In addition he has another 800 plants growing in trees outdoors.

Mr. Williams saw some orchids growing in Hawaii in 1945 and became interested. He got two plants and kept expanding until transferred in 1948 to Selfridge AFB, Michigan, where the climate was not conducive to outdoor orchid growing.

The constant moves of military life made building a greenhouse impractical and he gave up the hobby until induced to return by his conditional birthday present.

While he now has close to a thousand different types of orchids, he says that he is still just beginning. More than 3,800 different native types have been identified, and there are over six and one-half million hybrids.

Mr. Williams works with the Aircraft Division Product and Supply Support, on spares for the A-9 program.



**ORCHIDS FOR THE LADIES AT THE OFFICE**  
Bill Williams with Claire Payne, left, Helen Kelley and Jack Nation.

## THIS LADY PACKS A MEAN BRICK

Donna Rothwell, 15, is now the world's champion women's brick carrier. The record is unofficial, but has been submitted for official recognition.

Donna is the daughter of W. A. Rothwell, who is now with Northrop International after working in the Aircraft, Electronics and Electro - Mechanical Divisions.

According to Mr. Rothwell, Donna carried a nine-pound brick on a two-mile walk to break the women's brick-carrying record. The previous record, according to Guinness Book of World Records, was 1.6 miles

with an 8.75 pound brick.

During the record walk, from Corona del Mar school to her home in Newport Beach, she was not permitted to stop, rest or drop the nine-pound-load. Donna was accompanied by a neighbor, Bruce Robinson, who acted as witness for the record walk. He saw the former record in Guinness and suggested Donna try to beat it.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**



**MEDICINE MAN AND INDIAN GUIDES**  
Don DeOrio with sons Keith, left, and Todd, in costume.

## Medicine Man Don DeOrio Leader in Indian Guides

The Indian Guides are "big medicine" according to Medicine Man Don DeOrio of the Electro-Mechanical Division.

The Guides are a youth program sponsored by the YMCA which differs from most programs of this type in being one that brings fathers and sons together. It is designed to foster companionship between the two. Their slogan is "Pals Forever."

The Guides are divided into nations and tribes and Mr. DeOrio is Medicine Man of the Bear Nations, and chief of the Comanche Tribe.

As Medicine Man he acts as the organization's spiritual and heritage leader. He leads opening and closing prayers and on campouts participates in the campfire council. He is also responsible for the Indian heritage ceremonies, such as bringing the drum to life.

Drums were the heart of the old Indian tribes and had to be brought to life with a sacred ceremony before they could be accepted as part of the tribe.

The Indian Guides program is for boys from the first through the third grades. Fathers can be any age if young in heart. Recently a new program was added, called the Warriors, which will keep the father - son program alive through grades four to six.

"The Guides are a very fine program because it is not just something to keep children busy. It is designed specifically to bring father and son closer together," Mr. DeOrio said. "Fathers of young sons will find this an excellent way to get to know their children."

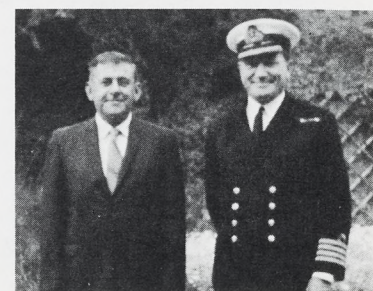
## NORTHROP KIN AIDE TO QUEEN

All the pomp and ceremony of royalty have taken on added meaning for a Northrop family.

Last month Captain Stephen Barton of the Royal Navy took over duties as aide-de-camp to Queen Elizabeth II of England. Capt. Barton is the brother-in-law of C. I. "Brad" Bradley, security representative, Aircraft Division.

Mr. Bradley and his wife, Stella, met in Germany shortly after the end of World War II when he was serving as assistant chief of the Criminal Investigation Division for the European Command. They were married in 1948. Mr. Bradley retired from the Army in 1956 and joined Northrop in 1957.

"Capt. Barton has been in the Royal Navy 34 years and serves as chief of Training in regular duties," Mr. Bradley said.



**AIDE-DE-CAMP**  
C. L. Bradley with Capt. Stephen Barton.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Station Wagon**, 1966 Fairlane 390, full power, air, stereo tape, extras, \$850. 213-324-1908.

**Ford**, 1966 Gal. XL convt., p/s, p/b, auto. trans., many extras, \$700. 213-372-1809.

**City Bus**, lge., GMC, diesel, auto. trans., \$1,700. 213-370-3821.

**Fiat 850**, 1969, sport cpe., new clutch, batt., brakes, valves, \$1,050. 213-457-9600.

**T-Bird**, 1956, completely restored, near new eng., trans., \$2,500. 213-756-1812.

**T-Bird**, 1963, deluxe sport mod., convt., 48,000 mi., \$599. 213-675-4786.

**Ford**, Ltd., 428 c.i.d., air, spd. control, AM-FM radio, 48,500 mi., p/s, \$1,300. 213-329-3476.

**Oldsmobile 98**, 1969, full equip., stereo, cruise control, tilt wheel, \$2,350. 213-877-0131.

**Cadillac**, 1964 Coupe DeVille, all power, \$795. 714-639-4438.

**Volkswagen Camper**, 1966, pop top, ice box, water pump, rebilt. motor, \$1,500. 213-376-5156.

**Volkswagen**, 1968 Sunroof, r/h, \$950. 213-326-7480.

**Corvair**, 1961 Monza, 4-spd. trans., 100 h.p., radio, shop manual, 66,000 mi., \$150. 213-541-1625.

**Station Wagon**, 1964 Mercury Colony Park, p/s, p/b, a/c, r/h, \$650. 213-868-0363.

**MGB**, 1966, wires, tonneau, r/h, \$750. 213-677-7382.

**Olds F85**, 1963 new trans. & tires, eng. o/hauled, \$450. 213-671-1815.

**Mustang 289**, 1966, air, wide tracks, \$900. 213-328-5833.

**Toyota**, 1968 Corona DeLuxe, new motor & clutch, \$950. 213-325-5441.

**Camaro**, 1967 SS 350, 4-spd., Cragars, pos-a-traction tires, \$1,495. 213-375-3711.

**Mustang**, 1970 Boss 302, Cyclone headers, Mallory ignition, 3.9 posi., 16,000 mi., \$2,600. 213-675-7443.

**Truck**, 1954 GMC, ¾-ton, \$250. 213-370-1963.

**Station Wagon**, 1962 Pontiac Safari, 9-pass., p/b, p/s, a/c, \$250. 213-375-0217.

**Karmann Ghia**, 1961, remanufactured eng., radio, stick shift, \$299. 213-889-0191.

**Corvette**, 1968, 327 cc, 4-spd., convt., 30,000 mi., \$2,600. 213-679-6000.

**Roadster**, 1923 T Ford pickup short bed body, all glass, 394 Olds eng., bored & stroked to 490 cu. in., street legal, many extras, \$3,200. 213-423-9350.

**Renault Rio**, 1968, 4-spd., \$700. 213-831-5304.

**Renault R-8**, 1963, 4-wheel d/brakes, r/h, \$225. 213-831-9589.

**Toyota**, 1970 Corona, 4-dr. sedan, r/h, a/c, 12,500 mi., \$1,900. 213-327-5792.

**Volkswagen**, 1965, \$750. 213-327-2831.

**Volkswagen**, 1971, AM-FM radio, 7½" mag whls., \$1,900. 213-373-4336.

**Pickup**, 1951 Ford V-8, 3-spd. stick, \$325. 714-847-5938.

**Vega**, 1971 GT, fully equipped, still under warranty, 110 h.p., stereo tape, \$2,800. 213-291-6075.

## Miscellaneous For Sale

**Couch**, love seat, gold & white, \$200. 213-327-3331.

**Pool Table**, 3½' x 7', precision lightweight table, oak woodwork, completely equipped, \$150. 213-672-5649.

**Acreage**, 2.5 acres in Antelope Valley near Lancaster, city water & power, \$6,500. 805-498-2304.

**Condominium**, 1400 sq. ft., all elec., secured bldg., 2-bdrm. & den, bltns, N. Inglewood, no planes, P.V. view, \$29,900. 213-674-1400.

**Stole**, mink, natural ranch, \$100. 213-483-0100.

**Pistol**, Walther PPK, w/ holster, \$95. 213-785-1405.

**Enlarger**, Accura 35mm, \$20. 213-324-0522.

**Refrigerator**, Gibson, \$20. 213-672-1090.

**Piano**, upright, recently modern refinished, \$180. 213-696-7529.

**Pool Table**, 3½' x 7', \$40. 213-423-1363.

## Miscellaneous For Sale

**Chair**, avocado green recliner, vinyl, \$35. 213-324-8853.

**Tripods**, U.S. Army Signal Corps, \$8 ea. 213-426-4060.

**Home**, corner, 2-story, 4-bdrm., 2 baths, f/place, cpts., dps., sprinklers, across from Los Cerritos shopping center, \$31,500. 213-860-3022.

**Dresser**, 60" maple, dble., framed mirror, 10 drwrs., antique h/ware dove-tailed, \$100. 714-830-3048.

**Acreage**, 2½ acres fronting on Adelanto pvt. airport, M-1, \$65 dn., \$65 mo., \$6,500. 213-378-1026.

**House**, 3-bdrm., 1½ bath, 5½% loan, in Fullerton, \$26,000, 714-871-5254, 714-362-2042.

**TV Set**, b&w, 19" portable Packard Bell, \$19. 213-376-4831.

**Rug**, DuPont hi-low, beige 12'x13', 20 oz. waffle pad, used very little, \$55. 213-675-7673.

**Organ**, Conn, tube, Leslie spkr., 2 full key-boards, full pedals, needs some repair, \$400. 714-524-2128.

**Couch**, Colonial, brown, \$75. 213-772-0365.

**Carbine**, 8mm Mannlicher Mauser, full stock, sling, 20 rd. ammo, \$60. 213-327-4585.

**Motorcycle**, 1969 Yamaha, 125 twin, \$300. 213-375-0493.

**Radio**, C.B. base, Courier Royale, 23 ch., Turner 454 sideband mike, 30' coax cable, \$180. 213-371-8339.

**Dinette Set**, table, 6 chairs, metal, blue seats & backs, \$20. 213-323-5119.

**Lots**, 6 dble. interment, Inglewood Park Cemetery, Park Terrace Sec., \$1,000 dble. 213-320-7482.

**Property**, lge., lakeview, waterfront, on Lake Shastina, terms, approx. .3 acres w/ view of Mt. Shasta, \$34,500. 213-833-2584.

**Trumpet**, Conn, \$95. 213-865-5084.

**Motorcycle**, 1971 Honda, CB 175, 900 mi., \$500. 213-773-4165.

**Mobile Home**, 1968, Villa West, 20'x45', 2-bdrm., 1 bath, adult park, \$8,500. 213-327-4914.

**Horse**, 8-yr.-old mare, 15.2 hands, western tack avail., \$450. 213-375-5332.

**Lot**, near Running Springs, Calif. off Hwy. 18, \$4,595. 714-637-4067.

**Water Softener**, Sears custom series, programmed cycle, never used, \$100. 714-637-4723.

**Land**, in desert, Antelope Valley, \$275 acre. 805-943-4085.

**Baby Carriage**, twin, converts to stroller, \$25. 213-886-2534.

**Bicycle**, ladies' 26" Schwinn, 3-spd., \$50. 714-892-1945.

**Stereo**, Sony AM-FM w/cassette recorder & playback, det. spkrs., walnut, \$150. 213-545-3843.

**Horse**, Welsh gelding, 13 hands, for experienced rider, \$150. 714-539-6203.

**Living-Room Set**, 2-pc. Kroehler, sage green, 6'2" cush. divan, T-cush. chair, \$135. Other items. 213-670-2564.

**Motorcycle**, 1970 Honda 100 Scrambler, extras, \$285. 213-476-1842.

**Pictures**, Japanese origs., color, framed, 8"x10", Geisha girl subj., 3 sets, \$130. 213-326-0124.

**Dress**, square dance, size 14, turquoise w/ silver, \$5. 213-325-6626.

**Engine**, 1962, recent o/haul, fits 1961-62 Lincoln, Ford, or Mercury, \$75. 213-326-3620.

**Tape Deck**, player, radio comb., Grundig, 2-track, tapes, mike, spkrs., \$40. 213-556-2728.

**Communications Receiver**, Hallicrafters SX-99, \$45. 213-377-4623.

**Lot**, ¾ acre, so. side of Elsinore o/looking lake, water & elec. in, level bldg. site, \$6,000. 213-530-3046.

**Toolbox**, Kennedy, mikes, blocks, gages, other tools, \$75 or sell sep. 213-376-9875.

**Floation Wheels**, & 11.50-16 high tires mounted on widened Porsche whls., \$85 pr. 213-821-4180.

**Camera**, Cannon FT-Q1, f1.2 lens, leather case, tripler, 2 mos. old, \$160. 213-371-4523.

**Sailboat**, Lido 14, 24' center board, trailer w/bearing buddies, cover, new shrouds & forstay, \$925. 213-325-5705.

**Crib**, spring & mattress, mattress used 1 wk., \$20. 213-644-3742.

**Sailboat**, 32', Col. Sabre, fully found, \$4,750 or partnership. 714-675-1977.

**Shotgun**, 28 ga. single shot Winchester, \$32. 213-328-1114.

**Trailer**, 52' Sahara, expanded living rm., screened porch, cabana, \$3,600. 213-324-9476.

## Miscellaneous For Sale

**Saw**, Craftsman 9" radial arm, blades, complete set of molding blades, adjust. dado blade ¼" to 7/8" wide, stand, \$150. 213-534-2464.

**Sewing Machine**, portable, case, straight stitch, International, \$25. 213-675-8031.

**Bicycle**, 27" white Peugeot, 10-spd., \$100. 213-831-9020.

**Carpeting**, 45 sq. yds., green, \$100. 213-378-4639.

**Wheelchair**, folding, \$65. 213-833-5515.

**Club Chair** w/ottoman, off-white, custom made plastic cover, \$25. 213-532-6175.

**Pups**, Chihuahua, AKC papers, males & females, fawn colored, \$50. 213-866-1276.

**Refrigerator**, Hot Point, 11 cu. ft., coppertone, \$60. 213-328-7571.

**Sectional**, 8', turq., & love seat, \$40. 213-645-5516.

**End Tables** or commodes, 2 Danish walnut, never-mar tops, \$15 ea. 213-541-3000.

**Trombone**, Getzen, B flat, case, \$20. 213-378-6896.

**Enlarger**, 2¼ sq. to 35, sharp lens, \$25. 213-327-4267.

**Snow Chains**, 3 sets, \$7.50 ea. 213-676-6449.

**Acreage**, Oregon Dream Ranches, 20 acres ea., \$275 acre. 714-525-3816.

**Cemetery Lots**, 2 Inglewood Cemetery, Avalon tract, \$300 ea. 916-459-3333.

**Acreage**, 2½ acre parcels near Palmdale Intercontinental Airport, low dn. pymt. & int., cash discount, \$6,500. 714-673-7752.

**Couch**, 8', gold, & 2 green chairs, \$75 or sell sep. 213-671-4902.

**Cat Run**, or small dog, wire, 4'x8'x4', \$16. 213-867-1479.

**Ski Boat**, 16' Esquire, Merc. 1000, cover, trailer, ski equip., \$1,895. 213-325-5005.

**Recliner**, leather, brown, \$15. 213-675-6668.

**Piano**, George Steck baby grand, dk. mahogany, \$600. 213-378-1771.

**Camera**, 35 mm Pentax Spotmatic II w/1.4 lens, leather case, latest model, used twice, \$199. 213-370-8001.

**Sofa**, convt., dble. bed, black w/walnut legs, \$50. 213-641-8355.

**Motorcycle**, 1965 305 Honda Hawk, \$290. 213-376-4341.

**Motorcycle**, 1968 Triumph Bonn 650, dual carb., chrome, \$850. 213-372-7894.

**Bicycle**, Schwinn, 24", hand brakes, 3-spd., boy's, \$40. 213-329-2842.

**Surfboard**, 9 Sears Sportsflite, \$50. 213-329-1861.

**Sofa**, 3-pc. sectional, \$150. 213-832-3502.

**Accordion**, 120 bass, white Frontalini, mus. stand, \$200. 213-679-4442.

**Bookcase**, 30" x 74" w/sliding plate glass doors, \$20. 213-296-1238.

**Sailboat**, Islander Bahama, 24', fully equipped, motor, bath & dinghy, \$4,395. 213-675-6206.

**Refrigerator**, 1967 Hotpoint, 14 cu. ft., \$60. 213-541-1423.

**Gun**, Frontier Colt single action, new mfr. 38 Special, \$125. 213-375-4312.

**Childcraft Series**, 15 vols., \$50. 213-831-6567.

**Home**, S. Gardena area, 3-bdrm., 2 baths, family rm., covered patio, sprinkler sys., all bltns, cpt., gas b-b-q, lge. corner f/place, \$35,000. 213-323-3796.

**Washing Machine**, Westinghouse, approx. 8 yrs. old, \$30. 213-324-7059.

**Crib**, w/mattress, white, \$20. 213-679-5506.

**Dinette Set**, white wrought-iron table, 30" x 48", glass top, 4 chairs, gold vinyl, \$85. 213-377-1094.

**Home**, 3-bdrm., East Torrance area, 1,100 sq. ft., 1¼ bath, cpts., dps., fenced back/yard, 2-car det. gar., \$30,500. 213-320-6388.

## Wanted to Buy

**Hair Savers**, old, napkin holders, salt celars, cut glass & crystal, reasonable. 213-371-7711.

**Honda**, 1969, 350 cc Super Sport, up to \$700, or \$500 & 1964 Honda, 250 cc, consider other brand. 213-676-1018.

**Duster**, 340 or Demon, auto. trans., pay cash. 213-329-1705.

**Fireplace Screen**, brass, reasonable. 213-242-9723.

**Stroller**, twin type, w/7 wheels, in good condition. 213-863-3900.

**Engine**, 140 h.p. Corvair, comp. or part. 714-537-1454.

**Bicycle**, men's, 5 or 10-spd. Derailleur, Schwinn. 213-378-4567.

**Cabinet Bed**, twin-size. 213-641-1880.

**Load Speakers**, 10" to 12" used, Raw, 3-way, JBL or equiv. 213-679-7378.

## For Trade

**Chrysler**, 1962 Newport, 4-dr., auto. trans., p/b, p/s, 56,000 mi., trade for 1961-1963 Volkswagen, in good condition. 714-871-2598.

## Free (To Be Given Away)

**Pups**, 6, born about Christmas, mother part cocker spaniel. 213-630-3888.

**Peekapoo**, 6 mos. old. 213-671-1660.

**Dog**, to adult home, silky female, papers. 213-542-4091.

## Rentals Offered

**Vacation Home**, new, Lake Arrowhead, 3-bdrm., 2 baths, walk to lake, beach club privileges, \$140 wk., \$60 w/end. 213-377-3817.

**House**, Cerritos, 4-bdrm., dng. & family rm., cpts., dps., heated pool, 2,350 sq. ft., \$395 mo. 213-860-9271.

**Vacation Cabins**, Idyllwild, 1 & 2 bdrm., stream, patios, f/place, \$30-\$40 w/end, \$70-\$90 wk. 213-868-8040.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.

**House**, 3-bdrm., den, 2 baths, furn., washer, dryer, d/washer, 4 blocks to Northrop, \$250 mo. 213-833-2512.

**Cabin**, Big Bear City, 2-bdrm., 1 bath, \$40. 213-320-6486.

**Cabin**, near Arrowhead & Running Springs, sleeps 4 to 5, \$30 w/end. 213-370-7105.

**House**, 2-bdrm., fenced yd., gar., in Harbor City, adults, refs. required, no pets, \$160 mo. 213-326-5566.

**Condominium**, 2-bdrm., furn., Palm Springs area, heated pool, \$100 wk., \$60 w/end. 213-327-8994.

**Apt**, unfurn., new cpts. & dps., 2 entrances, closed gar., adults, stove & refig. if req'd., near 117 & Crenshaw, \$130. 213-756-3669.

## Rentals Wanted

**Room** w/board, 5 days wk., for quiet gentlemen till family moves down in June. Box 301.

## Child Care

"Grandma" wanted to





#### MANAGEMENT CLUB SLATES PLANS FOR 1972

Seated, from left, Doug Finch, George Bostater, Paul Wood, President Dave Coe, Bert Rose, Dorothy Prychoda. Standing, from left, Dick Tupper, Dutch Youngers, Dick Warner, Jack Duganne and Ted Szostek.

## Mgt. Club Makes Plans

Planning becomes action this month for the new slate of the Ventura Division's Management Club headed by Dave Coe, president.

Los Angeles Police Chief Edward M. Davis spoke at the first 1972 meeting of the group this week and Mr. Coe is lining up speakers of similar caliber for coming meetings.

The Management Club also plans to formulate a new program which would assist local high school counselors by making Northrop professional men available to assist young people interested in specific disciplines.

"This program is the result of the Management Club's interest in responding to the community as a whole rather than strictly the Northrop side," Mr. Coe explained.

"We hope to complement the school counselors," he said, "so if a student wants to look at a discipline closely and explore it in depth we can assist him."

He said the interest areas

would be broad: engineering, finance, production, quality control, administration, virtually all fields in which the Management Club has interested members.

Other Management Club officers are Dutch Youngers, first vice president; Dick Warner, second vice president; Bert Rose, secretary; and Paul Wood, treasurer.

On the board of directors representing various areas are Dick Tupper, Executive; Rollin Lemm, Engineering; Ted Szostek, Production Operations; and Doug Finch, Industrial Relations and Administration.

Also, John Wolcott, Quality Assurance; Dorothy Prychoda, Financial Management; Jack Duganne, Product Development; and George Bostater, Contract Management.

## LAST TALON

(Continued from page 1)

first delivered and, despite its use as a trainer, had a lower accident rate than the over-all Air Force rate.

More than 24,000 pilots qualified in the T-38 during the past 10 years, most of them USAF pilots. NASA astronauts flew the Talon to maintain flight time and the West German Air Force also qualified its pilots in the bird.

The program's success was attributed by many to its design.

Mr. Jones had praise for Mr. Gasich who was chief of Preliminary Design at the Aircraft Division when the bird was conceived. Another Ventura man, John Flores, played a big role on the T-38 as chief of Aeronautical Sciences at Aircraft.

"This aircraft is a credit both to Northrop and to the Air Force," said General Nunn. "We can all be proud of it."

## Six Receive Service Pins

J. J. (Jimmy) Johnson, project manager for Aeronautical Systems, receives a 30-year emblem this month to top the list of Ventura service pin recipients.

Mr. Johnson started his Northrop career Feb. 17, 1942 as an hourly employee in Production Control at the Aircraft Division.

His activities soon led to supervisory roles on many landmark Northrop products, including the P-61 Black Widow fighter and the Snark missile system.



Mr. Johnson

Transferring to Ventura in 1958, Mr. Johnson soon became involved in recovery systems. His work on the Apollo Program earned him membership in the select Snoopy Club.

Mr. Johnson said his working with Northrop "has been a wonderful relationship" and that "all of my assignments have been

challenging and rewarding." He has also held elected positions in the Management Club.

Receiving 20-year pins this month are Dorothy Prychoda, an accountant, and Bob Pemberton, a procurement specialist.

Mrs. Prychoda, a past-president of the Recreation Club, began her Northrop career at the then-Radioplane Division as an accounting clerk. She has held several other related posts in her two decades with Northrop.

Mr. Pemberton joined Northrop on Feb. 19, 1952, as a materiel analyst senior at the Aircraft Division. He has been at the Ventura Division since Dec. 17, 1962.

Theo Knacke, of the Product Development Department, is the sole 10-year pin recipient this month.

Qualifying for five-year pins are John Miller and John Clark.

## Venturans Teach

Two men on the Quality Engineering staff, Tony Fortuna and Al Martin, are each instructing two courses in quality control at Pierce College in Woodland Hills.

Still another Venturan, photographer Robert Thornton of Arts and Graphics, was a recent guest lecturer at the Brooks Institute's School of Photography in Santa Barbara.



Mrs. Prychoda



Mr. Pemberton

## Know Your NRC Clubs

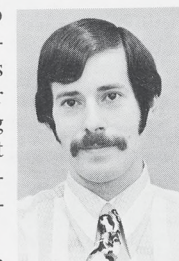
### Chess and Go

One of the smallest Recreation Club-sponsored groups at the Ventura Division is the Chess and Go Club. Ivan Blum, of Economic Analysis, is the commissioner.

The group meets sporadically and plays either chess or Go during lunch hours at various locations throughout the plant.

Mr. Blum explained Go as a two-player strategy game invented in China some 5,000 years ago. It is "much more complex than chess," he says.

Persons interested in chess competition or learning the intricacies of Go should contact Mr. Blum at ext. 1007.



Mr. Blum

### Golf

Probably the most active single club in terms of membership volume is the Ventura Division Golf Club with nearly 100 members.



Mr. Jones

California locations.

Assisting Mr. Jones are Fred Longo, vice commissioner; Ken Brubaker, treasurer; Chuck Brune, handicap chairman; and Jaddis Martin, secretary.

Area Boosters are Dutch Youngers, Engineering; Ron Aitken, Administration and Al Hahn Manufacturing.

## BRIDGE CLUB MAKES AWARDS

Bob Tracy was named "Player of the Year" and Ralph Reeves was honored as "Most Improved Player" when the Ventura Division's Bridge Club had its annual awards banquet recently.

Others winning awards were Betty Reinisch and Terry Chin who finished first and second in the special Individual tournament.

In the Open Pairs competition, east-west winners were Leon Strydloff and Tom Metz; with a tie for north-south between Ruth and Bob Tracy and Terry Chin and Tanet Palmer.



# NORTHROP NEWS

VENTURA DIVISION EDITION

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## MQMs Have Banner Year At Pt. Mugu

It was a banner year for the Northrop MQM-74A at the U.S. Navy's Naval Missile Center, Point Mugu.

The year 1971 saw a record 282 launches of the MQM-74A compared with 92 the previous year. Figures were provided by Sid Carr, head of Quality Control at the Missile Targets branch.

"It was definitely a record for 12 months of MQM-74A activity," commented Mr. Carr. "As a matter of fact, we flew more missions with the MQM-74A than with any other target," he said.

Looking back over the milestones, he noted the first MQM-74A launch of the year at NMC took place January 12. Mission number 100 was logged May 5 and the 200th mission of the year was on September 9. The final firing of the year was just before Christmas, December 21.

"We have logged more than 400 flights since the MQM-74A came aboard back in late 1968. I'm sure we will hit the 500 mark this spring," Mr. Carr added.

NMC is one of five U.S. Navy facilities where the MQM-74A is used. The target, known internationally as the Chukar, is also used at the NATO Missile Firing Installation (NAMFI) on Crete, as well as by British and Italian services.

## VIA ELECTED BY CREDIT UNION

Johnnie Via was re-elected president of the Ventura Division Credit Union in an annual meeting which saw the annual dividend reported at 4.87 per cent.

Others on the board of directors are Earl Morgan, vice president; Bob Prieve, treasurer; Joyce Nelson, secretary; Joe Sliakis, Ralph James and Joe Pulver, assistant treasurers.

On the Credit Committee are Leo Karas, chairman; Steve Wrubel, secretary; and Karl Stoy, Dave Coe and Gordon Reeder. Tony Piscuskas chairs the Supervisory Committee.



**CELEBRATING PERFECT ATTENDANCE WITH MR. EVANS**  
Seated, from left, George Hensley, Cathy Tremer, Harold Schuman.  
Standing, left, Harry Parker offering congratulations to Ed Lewis, Leon Barnes and Sam Trinkle.

## Attendance Champs Feted

When you combine their records, Jerry Brower and Jake Taddeo of Transportation have missed just one day of work in a total of 26 years with Northrop.

Mr. Brower and Mr. Taddeo were honored along with other Venturans who completed 1971 with a perfect attendance record. Their reward was a special certificate and a steak luncheon with John E. Evans, vice president of Manufacturing.

A total of 16 Venturans amassed perfect work records. Two others who repeated for the second year in a row were Norman Crate of Quality Assurance and Russ Thomas of MQM Final Assembly.

Also coming to work every day in 1971 were Alex Amavisca, Leon Barnes, Charles Bliven, George Hensley, Marion Lep-

pert, Ed Lewis, Bill Merrick, Harold Schuman, Opal Stafford, Cathy Tremer and Sam Trinkle.

Receiving honorable mention certificates for missing one day or less were John Findley, Ted Hildebrand, John Peters, Nate Phillips, Eli Salas, Marvin Shered, Marvin Smith, Fred Steiger, Don Thompson and Verne Turner.

But the pacesetters, Mr. Brower and Mr. Taddeo, remain the most successful in the attendance field.

Mr. Brower has made the honor roll every year for the past 12 years. He hasn't missed a day. Mr. Taddeo has missed just one day in the past 14 years.

Explaining the absence as due to a death in his family, Mr. Taddeo said his own health is not a factor in his attendance. "If I have to go to the hospital I just do it during a vacation time."



**SHOWING OFF THEIR HONOR ROLL CERTIFICATES**  
Seated, from left, Jake Taddeo, Russ Thomas, Opal Stafford.  
Standing, from left, Alex Amavisca, Jerry Brower, Charles Bliven, Bill Merrick.

## Cost-Cutting Suggestions Win Awards

Eighty-nine Ventura personnel earned awards ranging from \$10 to \$373 for cost-cutting suggestions in 1971 and 15 more Venturans are starting the new year with that in mind.

Those 15 received cash awards worth a total of \$451 in the first two months of 1972.

Two electricians, Bert Stohlmann and Matt Newcomb, led the list as they worked together to come up with a major savings through reclamation of hydraulic fluid. Each received \$63.

Jim Bamburg got \$56 for suggesting a masking device which saved time and money and Jack Lee was awarded \$39 for still another paint shop masking idea.

Two women, Pat Henry and Mary Ann Cox, received \$35 each for their separate cost-cutters and Wally Brix earned \$30.

Russ Thomas had two suggestions accepted to give him \$29 while Norris Drewery and Owen Viguerie each received \$25 for a joint safety idea they figured out together.

Earning \$20 and \$11, respectively, were Dean Holman and Margaret Novak. Paul Friedman, Jim Kearney and Gary Williams received \$10 each for their money-saving ideas.

## GOOD START FOR NRC GOLFERS

The new year might mean a new handicap if the scores of Ventura Division golfers are any indication.

Chuck Brune shot a net 57 to win the B Flight in the first Golf Club tourney of the year at the Vista Valencia course.

Right behind him in that flight were Ed Sheridan with a 60 and Ed Armstrong, 61.

The A Flight was equally hot. Dave Logan fired a 58 to win it. Roy Shelly, the defending Player of the Year, edged Norm Curtis, 62.12 to 62.16 for second.

Zeda Armstrong, not to be outdone by the men, shot a 58 to top the Ladies Flight and Clara Curtis, 1971 ladies' Player of the Year, carded a 59.





**HARVEST TIME**—When the Electro-Mechanical Division facility at Anaheim was built, orange trees from the grove that once covered the site were left standing as landscaping. Now when the fruit ripens members of the NRC Horticulture Club harvest the crop and sell it to interested employees. Shown at work are, from left, Betty Schulz, Bert Beard, Jim Auest, Sefie Garcia, John Barth and Joe Saline.

## Travel Club Maps Plans

Four group tours for the 1972 season will be discussed by the Northrop Travel Club at an 8 p.m. March 30 meeting set for the NRC Clubhouse.

A three-week, eight-country

## STAMP CLUB TO PROCESS COVERS

Northrop Stamp Club has made arrangements to process first flight covers for two Northrop aircraft scheduled to make initial flights this year—the A-9A and the F-5E.

The covers will have a cachet commemorating the event along with an Edwards AFB cancellation. The club will offer the covers for sale to employees soon after each flight.

Meeting the third Monday of each month, the Stamp Club will feature for March a new film titled "Stamps: a Nation's Calling Cards."

## SME CHAIRMAN

Al Siggson, Aircraft Division design standards specialist, has been elected chairman of Chapter 84, Society of Manufacturing Engineers.

Mr. Siggson, recipient of the SME President's Outstanding Service Award in 1967, has served the chapter as treasurer, third, second and first vice chairman and in committee assignments.

## CODE CLASSES

Northrop Radio Club has launched a new series of code classes, open to all interested employees. Classes are held at 7:30 p.m. each Wednesday in NRC Clubhouse, Hawthorne.

visit to Europe is planned for Sept. 25 through Oct. 15 at a price of \$895. Alaska will be the destination of an 11-day tour Sept. 26 through Oct. 6 with prices starting at \$449. And a 10-day combination air-cruise visit to the Caribbean is set for Nov. 30 through Dec. 9 at a price of \$469. Rounding out the year will be NRC's trip to Hawaii over the long yearend holiday.

## ICE CAPADES

A block of 500 "best in the house" reserved seats for the 5 p.m. April 23 production of Ice Capades at the Los Angeles Sports Arena have been reserved just for Northrop families.

Regular ticket outlets are offering the \$5 tickets for just \$3.50 each.

# Shareholders Told Credit Union Enjoys Good Year

Shareholders attending the Feb. 1 annual meeting of the Northrop Credit Union heard officers and directors report a successful year of operation during 1971 in which total assets top \$10 million for the first time.

Reports revealed that, despite current economic slowdowns in which the number of loans were down, the total of outstanding loans granted through the Credit Union increased. Above all, this reflected a policy of expanding loan possibilities.

Good news came when the Credit Union noted that first mortgage on home loans would be reduced from a current nine per cent to a new seven and one-half per cent rate. Also, members will now be able to obtain loans on new boats. Additional studies are in progress to expand loans into other areas.

Shareholders elected as directors: Harvey L. Cook, L. L. Cripe, M. B. Delaney, R. D. Hampton,

J. J. Richardson and W. D. Schramm of the Aircraft Division; R. A. Lindsey and J. S. Penrod of Electronics Division; and B. M. Slotnick of Northrop Data Processing. The board named Mr. Lindsey president, Mr. Cook vice president, and Mrs. Delaney, secretary-treasurer.

Also elected was a credit committee comprised of Margaret Faubion, and R. C. Pontious of Aircraft and W. H. Justice of NDP, the chairman. The supervisory committee elected was comprised of S. D. Parr, Electronics, A. W. Johnson, Electro-Mechanical, E. R. Foord and H. H. Sweet, Aircraft, and T. A. Hruska, NDP, chairman.

Subordinate officers named are: Florence Montgomery, assistant treasurer; Catherine Walker, cashier, Helen Walker, membership chairman, and Margaret Faubion and R. C. Pontious, loan officers.

## JACK BEHRENS IAE FELLOW

Jack Behrens, Aircraft Division, was inducted last month as a Fellow of the Institute for the Advancement of Engineering.

This honor recognizes those engineers who have contributed to the advancement of the engineering profession in Los Angeles.

Mr. Behrens was nominated for the honor by the Southern California Section, American Association of Cost Engineers, an organization he has served as president, vice president and director in addition to numerous committee chairmanships.

## HOW OLD, PECK?

Peck Campbell, Electro-Mechanical Division, came to work with Northrop in 1956 and has been on the job ever since. But according to his reckoning it will be another four years before he can legitimately qualify for his Northrop five-year service pin.

You see, he hired in on February 29, 1956, and only has an anniversary every leap year.

His comment: "I wish I only felt four years older."

## TICKET CHANGE

Northrop personnel holding Pacific Drive-in theatre discount tickets purchased in-plant must use those tickets before March 31.

Toward the end of March Northrop outlets will offer new discount tickets reflecting a price increase. These ducats sell for \$1.25 and represent a savings of 50 cents per ticket.

## NAVY OPENINGS

Northrop service veterans with certain skills who may be interested in earning extra cash on weekends have been invited to investigate the opportunities offered by the U.S. Naval Air Reserve at Point Mugu.

Information is available through the Recruiting Officer at Point Mugu. Either write or call collect, (805) 982-8744.

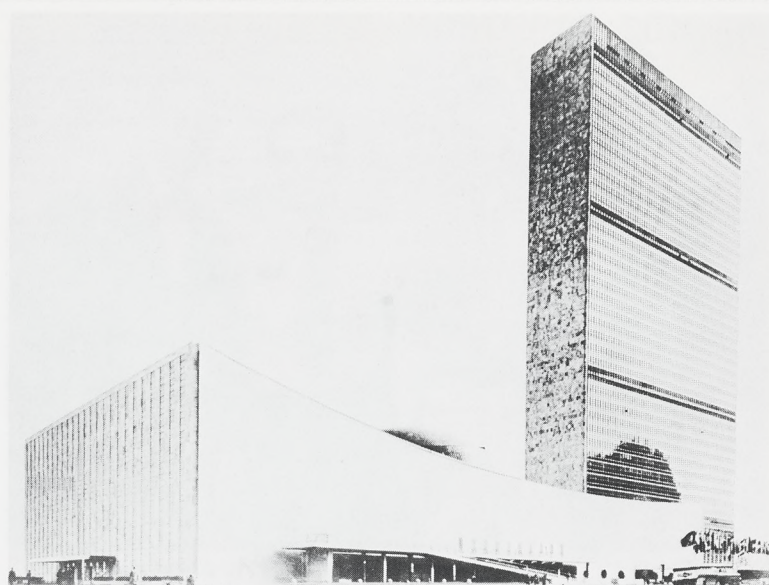


**NEW OFFICERS** of the Northrop Retirement Club, President Harold Barbey, Vice President Margaret Bruchez, Secretary-Treasurer Jeanette Kaupp and Sergeant-at-Arms Alvera Hayes, are making plans for the group's annual reunion in May.





UNITED STATES SUPREME COURT, WASHINGTON



UNITED NATIONS HEADQUARTERS, NEW YORK



GENERAL MOTORS, NYC

## George A. Fuller Company Founded After Civil War

The George A. Fuller Company, acquired by Northrop in late 1971 as an expansion of the company's commercial business interests, is one of the nation's leading, and oldest, building construction firms.

Because the Fuller heritage, dating back to the Civil War reconstruction period, is now a part of Northrop history, the News is presenting a pictorial essay of some of Fuller's building accomplishments to better acquaint Northrop employees with this fine organization.

Among historic buildings constructed by Fuller in

Washington, D.C., are the Lincoln Memorial, U.S. Supreme Court, National Cathedral and many others. In New York the list includes Pennsylvania Station, the Flatiron, Plaza Hotel, Union Carbide, Time/Life buildings, the New York Coliseum, United Nations Headquarters and Roosevelt Raceway.

Californians should recognize such Fuller structures as the Century Plaza Hotel, Century City Towers, Marineland of the Pacific in Los Angeles, the Salk Institute in Torrey Pines and the Bank of America Headquarters in San Francisco.



UNION CARBIDE, NYC



CENTURY CITY TOWERS

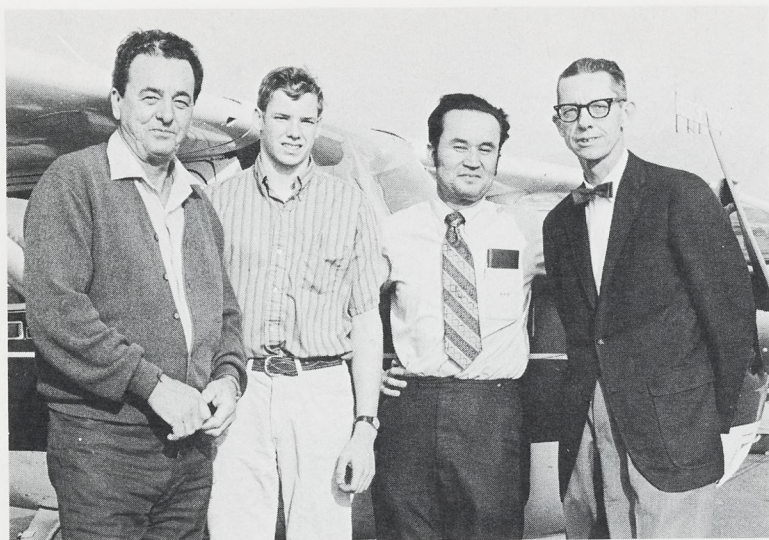


LINCOLN MEMORIAL, WASHINGTON



ALUMINUM CO. OF AMERICA





**HE EARNS PRIVATE LICENSE ON 17TH BIRTHDAY**  
From left, A. Gabardi, Bill Johnson, Ron Kramer, Johnny Johnson.

## Bill Johnson Celebrates 17th Birthday By Earning His Private Pilot's License

February 10 is a day to remember for a Northrop son, his proud father, and a third Aircraft Division employee who played a key part in making it possible.

On that day Bill Johnson celebrated his 17th birthday by obtaining his private pilot's license, a goal he has sought after one year of flying as a student pilot. Bill is a junior at South High, Torrance, an "A" student who was quarterback and most valuable player on the school's junior varsity football team as well as a varsity letterman at defensive safety. He aspires to attend the Air Force Academy.

## Weyl's 'Spirit' Sweeps Contest

A scale model replica of Lindbergh's "Spirit of St. Louis," designed by one Aircraft Division man, built and flown by another, has garnered its share of attention lately.

Gus Morfis, Design Integration, is the designer. Carl Weyl, manager of F-5 Aerodynamics, built the "quarter midget" radio-controlled model and flies it in competition.

These members of the Northrop Model Airplane Club were on hand in December for competition with the Orange Coast R/C Club in Fullerton.

Mr. Weyl completed his model just before the contest and flew it for the first time that day. He swept to victory in every heat entered, then won over-all honors in a flyoff. The model is featured in the April edition of the magazine R/C Modeler.

His father is H.A. "Johnny" Johnson, a retired Air Force test pilot who flew Northrop P-61s and the N9M wing. For four years he held the international 1,000 kilometer closed course speed record, set in a P-80 during his 10-year Air Force career.

Ron Kramer, Tactical Operations Analysis, was Bill's flight instructor.

## WALTI TABBED

John Walti, Aircraft Division Value/Productibility engineer, was installed recently as treasurer of the Association of Santa Monica Bay Yacht Clubs.

Mr. Walti is currently staff commodore of the Palos Verdes Yacht Club. At a recent installation dinner at the Del Rey Yacht Club, Mr. Walti was awarded a plaque and new burgee for his highly successful coordination of the 1971 and 1972 racing calendars for the Santa Monica area.



**CARL WEYL AND HIS 'SPIRIT OF ST. LOUIS'**

## Beautiful Writing Helps Revive Whaling Memories

Betty Corson, wife of Bob Corson, Electro-Mechanical Division, Target Detection Devices, is helping keep alive memories of the nineteenth century American whaling industry.

Mrs. Corson's calligraphy — the art of beautiful writing — has been used to explain exhibits in an historical exhibition at Whalers Village, Kaanapali, Maui, Hawaii. The descriptions are facsimiles of entries from the captain's logs of old whaling vessels.

Mrs. Corson first became interested in calligraphy when, at the age of 12, she happened to use an old style dip pen in a post office.

She kept practicing just for fun and several years ago began inscribing certificates, diplomas and place cards as well as wedding invitations and announcements.

In 1970, some of her work was seen by Edward Carson Beall, a Palos Verdes architect who was then designing the Whalers Village and Museum. He explained the project to Mrs. Corson. The artifacts in the museum were to be displayed in cases spread throughout the village and were to be mounted on tile panels.

The problem was whether or

## REUNION SET

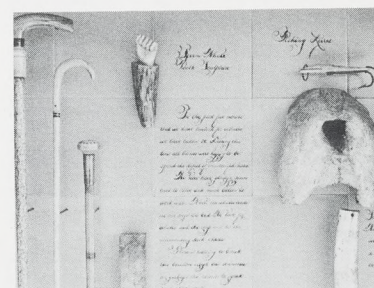
Dinner reservations for the annual Northrop Retirement Club Reunion May 17 at the Western Avenue Golf Clubhouse, 1930 120th St., are now being accepted by Personnel Activities.

The cost is \$3.50 per person with a deadline of May 10. No tickets will be sold at the door. Social hour begins at 3 p.m. with dinner at 6 p.m. Checks are to be made payable to Northrop Retirement Club.

not she could write on the tiles, in what may be described as "old fashioned copperplate hand," using glazing stain instead of ink. The tiles would then be fired.

Numerous trials and experimental firings finally produced the proper mixture and the writing began in September of 1970. Some 15,000 words later, the work is now nearing completion.

Mrs. Corson continues her calligraphy between her teaching at Los Angeles' James Fenimore Cooper Opportunity School and doing graduate work at California State College at Long Beach.



**CALLIGRAPHY**

## Johnson Family Leads Busy Life

Staying involved in community activities is the rule for members of the family of Harold L. Johnson of Aircraft Graphic Operations.

Mr. Johnson has just been named chairman of the Los Alamitos Planning Commission for 1972. He currently serves as acting chairman of the Rossmore Highlands Homeowners, as assistant district commissioner, Sunset District, North Orange Council of the Boy Scouts and was manager of the 1971 reserve champion Phillies baseball team in the St. Hedwig's Little League.

In addition, he is a member of the board of directors of the Los Alamitos-Rossmore Kiwanis Club, Parents Information and Advisory Committee, Lee Elementary School, and the Community Education Council, Los Alamitos Elementary School District.

Mrs. Johnson was publicity chairman last year for the Girl Scouts, a crafts work leader in the Cub Scouts and has prepared wall murals and art projects for the PTA.

The Johnsons have eight children. Four of them are Boy Scouts, two Cub Scouts and one a Girl Scout. Four of the six boys in the family carry paper routes.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- Olds 88**, 1960, radio, p/s, p/b, \$260. 714-637-7667.
- Oldsmobile**, 1962, 4-dr. sedan, recently painted, auto. trans., p/b, p/s, \$300. 213-296-1238.
- Barracuda**, 1970, 440 c.i., 4-spd. trans., pwr. d/brakes, p/s, posi-traction, FM-AM radio, \$2,500. 213-676-3692.
- Austin Healey**, 1967 Mark 3000, convt., new paint, wire whls., \$1,700. 213-939-3387.
- Lincoln**, 1963 Continental, 53,000 mi., \$500. 213-323-9003.
- Ford**, 1965 Gal. 500, r/h, p/s, a/c, new tires, batt., \$850. 213-635-7843.
- Javelin 304**, 1970, b/seats, r/h, 3-spd. floor shift, p/s, \$2,115. 213-851-1376.
- Buick**, 1968 Wildcat custom, a/c, p/b, p/s, r/h, stereo tape AM-FM, \$1,950. 213-757-2690.
- Chevrolet**, 1966 Malibu, 4-dr., p/b, p/s, auto. trans., r/h, 77,000 mi., \$550. 213-372-1546.
- Volkswagen Bus**, 1968, radio, new tires & clutch, \$1,695. 714-962-3112.
- Station Wagon**, 1960 Chevrolet, \$295. 213-374-4235.
- Toyota**, 1969 Corona DeLuxe, new motor & clutch, \$995. 213-325-5441.
- Station Wagon**, 1963 Chevrolet Impala, a/c, \$325. 213-377-6658.
- Pickup**, 1970 Ford Ranger, w/shell camper, auto. trans., p/s, 41,500 mi., min. bid, \$2,045. Credit Union ext. 1117, 5048.
- Buick**, 1962 Skylark, r/h, a/c, \$295. 213-679-5668.
- T-Bird**, 1955, \$1,800. 213-677-8410.
- Volkswagen**, 1965, \$650. 213-327-2831.
- Van**, 1961 Ford, 289 Cobra eng., inside completely finished, \$800. 213-378-9741.
- Pontiac**, 1962 Bonneville, rebilt. eng., \$350. 714-892-6862.
- Station Wagon**, 1966 Ford Fairlane 390, p/s, p/b, a/c, stereo tape, extras, \$800. 213-324-1908.
- Porsche 1700S**, 1960 roadster, '61 trans., \$1,500. 213-374-0510.
- Mustang**, 1967, 6 cyl., 63,000 mi., \$995. 213-831-9707.
- Monte Carlo**, 1970, full power except windows & seats, 35,000 mi., still under warranty, \$200 for equity & take over pymts., \$2,500 approx. bal. 213-347-4196.
- MGB**, 1968, o/drive, wire whls., AM-FM radio, \$1,200. 213-388-2704.
- Mustang**, 1967, wrecked, 25,000 mi. on eng., \$300 or sell parts. 213-677-0203.
- Pickup** & camper, Chevrolet, complete or sell separate, \$1,500. 213-941-3804.
- Corvair**, 1961 Monza, 2-dr. cpe., fold-down rear seat, 4-spd. trans., 110 h.p., radio, 67,000 mi., \$150. 213-541-1625.
- Opel Kadet Rallye**, 1969 1900, \$1,325. 213-323-1929.

## Miscellaneous For Sale

- Couch**, green print, coffee table, end table, \$50. 213-372-1381.
- Bookcase Headboard**, maple, king size, antique hardware, \$50. 714-830-3048.
- Trolley Hoist**, 1½-ton, runs on straight or curved 5" I-beam, \$95. 213-457-9600.
- Hide-A-Bed**, w/mattress, \$125. 213-675-7673.
- Heater**, 100 btu forced air, \$125. 213-886-2534.
- Skis**, Head 360's, \$95. 213-476-1842.
- Bicycles**, boy's 5-spd., 22" & girl's stingray, 22", \$35. 213-378-4639.
- Motorcycle**, 1963 Matchless, 750 cc, 8,000 orig. mi., \$500. 213-671-1660.
- Knitting Machine**, Sears Orion, dble. bed, w/instruction book & patterns, seldom used, \$200. 213-378-1405.
- Amplifier**, Fender, 2 15" Lancing spkrs., cabinets approx. 4' high, 2' wide, \$200. 213-696-7529.
- Motorcycle**, 1966 Harley Davidson 74, equipped for funeral escort, \$1,000. 213-370-1963.
- Organ**, mod. 1000 Kimball, 2 mos. old, \$2,095 or take over \$58.14 mo. pymt. for 46 mos. 213-325-3388, 213-835-1754.
- Sewing Machine**, Domestic portable, \$85. 213-863-3900.
- End Tables**, 2, Danish walnut, never-mar tops, \$15 ea. 213-541-3000.
- Glass Doors**, sliding, frames & glass, 3-panel OXO 12"x7 5/16", 2-panel XO 9'9 3/4"x7'7" 5/16" & 2-panel OX 7'10"x7'7" 5/16", \$125 or will sell sep. 213-275-7341.
- Pups**, Airedale, AKC, papers & shots, \$150. 213-831-6533.
- Motorcycle**, 1969 Honda CL 125, \$225. 213-377-5897.
- Acreage**, off Palmdale-Victorville Hwy., 5 acres, 10% dn., \$13,100. 213-430-1952.
- Coffee Table**, maple, & end table, antique grey, \$5 ea. 213-675-6020.
- Coat**, mink, autumn haze, ¾ length, \$295. 213-347-4599.
- Lots**, lake view, Isabella, 65x165, utilities, \$295 dn., \$45 mo., \$2,995. 213-635-3127.
- Guitar**, classical, \$70. 213-542-7651.
- Divan**, w/3 lge. chairs, & 3 end tables, limed oak, \$200 or sell sep. 213-670-2564.
- Engine**, 1968 MGB, 1800 cc, & 4-spd. trans., access., \$200. 714-531-6160.
- Acreage**, 2½ acres, fronting on new Adelanto pvt. airport, M-1, \$65 dn., \$65 mo., \$6,500. 213-378-1026.
- Lounge Chairs**, wrap around, 2, moss green crushed velvet w/matching ottoman, \$150. 213-327-2493.
- Air Compressor**, w/tank, mounted on whls., 1 h.p. motor, \$35. 213-324-6484.
- Trumpet**, York, \$25. 213-370-6896.
- Trailer**, 16' Fire Ball, sleeps 7, self-contained, butane ref., \$1,195. 213-699-8173.
- Typewriter**, Remington portable, case, \$25. 213-326-1331.
- House**, Westminster near McDonnell Douglas, Huntington Bch., 4-bdrm., 2 baths, lge. living rm. & kitch., covered patio, 2½-car gar., forced air heat, bltins, new cpts., landscaped yds., rear yard fenced, 5¼% loan avail., \$30,500. 714-897-7372.
- Camera**, 35mm F1.9 lens 1/500 shutter, coupled range finder, access., \$35. 714-535-8232.
- Jacuzzi**, \$150. 213-677-7310.
- Acreage**, 10 acres, in Apple Valley, near new airport, Silverwood Lake being filled, \$15,000. 213-327-3616.
- Record Player**, McDonald BSR w/base & plastic cover, \$40. 213-327-4267.
- Commode**, 28" square, fruitwood, \$75. 213-645-4697.
- Mini Bike**, Taco, new motor just installed, \$75. 213-377-1074.
- Typewriter**, IBM elec., \$165. 213-673-5614.
- Chair**, lemon yellow, \$70. 213-326-0124.
- Tape Recorder**, Sony TC50 cassette, w/auxiliary pwr. supply, \$60. 213-322-1892.
- Room Divider**, deluxe vinyl accordion-type, complete w/track & locking rail, 13' long, beige, \$50. 213-375-3322.
- Motorcycle**, 1968 Honda 350, \$425. 213-328-3383.
- Boat**, 14' Cal-Built, 25 h.p. Evinrude motor, trailer w/spare whl. & tire, sun top, eng., boat cover, \$375. 213-676-7043.
- Hardtop**, 1963-67, for Corvette, \$150. 213-631-3008.
- Water Softener**, large, Servissoft, \$90. 213-379-3300.
- Dehumidifier**, Westinghouse, used 1 season, \$65. 213-545-7149.
- Mobile Home**, 1971 Fleetwood, 12'x60' expando, awning, carport, complete skirting, at Imperial Beach, \$600 dn., \$7,200. 714-532-2627.
- Motorcycle**, 1970 Suzuki, TS90 w/100 cc hop up kit, incl. orig. stock equip., \$325. 714-633-0328.
- Rifle**, .222 cal. Rem. mod. 722 w/3 to 9 pwr. scope, ammo, carrying case, cleaning kit, \$100. 714-828-7873.
- Weightlifting Sets**, 2 Weider & York, 15¢ lb. 213-377-5362.
- Desk**, \$25. 213-672-1090.
- Acreage**, 40 acres, near Santa Maria, \$395 acre. 213-370-3821.
- Surfboard & water skis**, \$75. 213-329-1861.
- Wonder Horse**, \$10. 213-679-5506.
- House**, 4-bdrm., 2 baths, fam. rm., recent paint, fenced, landscaped, covered patio, new bdrm. cpt. & water htr., P.V. area, \$46,900. 213-541-2620.
- Piano**, upright Hamilton, Chicago by Baldwin, \$150. 805-482-5451.
- Typewriter**, Royal, \$30. 213-377-1404.
- Wetsuit**, skindiver-type, nylon lined, small, \$10. 213-833-4191.

## Miscellaneous For Sale

- Commode**, chrome, \$15. 213-323-5119.
- Stereo Cartridge**, Shure M91E, \$16. 213-377-7913.
- Typewriter**, standard upright Royal, \$15. 213-324-7259.
- Acreage**, 2½ acre parcels near Palmdale International Airport, low dn. pymt. & int., cash discount, \$6,500. 714-673-7752.
- Air Compressor**, portable, gages, pressure control switch, stainless steel tank, approx. 3.5 cu. ft. at 40 lbs., \$70. 213-831-4087.
- Motorcycle**, 1968 Honda CL 90, bored to 106 cc, compl. rebilt., \$190. 213-377-8815.
- Acreage**, Antelope Valley, prime Los Angeles County, next to Lake Los Angeles, 5-2½ acres, easy terms, \$6,900. 213-376-6205.
- Skis**, Head 360's, 210 length, w/bindings, \$30. 213-534-5707.
- Direction Finder**, Bendix Navigator 500 batt. powered, \$45. 213-454-7338.
- Chair & foot stool**, maple, \$15. 213-376-4831.
- Acreage**, Antelope Valley, flat, accessible, \$275 acre. Box 301.
- Tent Trailer**, Sherwood 1971, elec. brakes, spare tire & whl., take over bal. approx. \$1,400. 213-327-2126.
- Washer**, G.E. auto., 10 yrs. old, \$20. 213-632-7603.
- Cemetery Lots**, 2, in Rose Hills Memorial Park, near Whittier, \$500. 213-377-6460.
- Motorcycle**, Honda Mini-Trail 50, just o/hailed, \$150. 213-378-9614.
- Living Room Couch**, \$40. 213-423-1363.
- Motorcycle**, 1968 Yamaha, 80 cc, elec. starter, \$150. 213-288-6833.
- Cabin**, modern, furn., Lake Gregory, near lake & stores, terms, \$10,000. 213-821-8150.
- Boat**, aluminum, V-bottom, 12' Starcraft, w/access., \$150. 213-596-4215.
- Stove**, O'Keefe & Merritt, 4-burner, gas, \$10. 213-644-9375.
- Home**, 2-story, new, in horse-zoned area, Newbury Pk., \$22,750. 805-498-6356.
- Bucket Seats**, 2, red, for Corvair, \$35. 213-639-7791.
- Trumpet**, Olds, used 6 mos., 1 yr. old, \$100. 213-378-5698.
- Motorcycle**, 1969 Yamaha 125, less than 500 mi., \$350. 213-567-3480.
- Home**, East Torrance area, 1,100 sq. ft., 3-bdrm., 1½ bath, cpts., dps., bltins, fenced b/yard, 2-car det. gar., \$30,500. 213-320-6388.

## Wanted to Buy

- Tent Trailer**, good condition, under \$600. 213-865-5133.
- Bicycle**, boy's 20" w/training wheels if possible, good condition. 213-675-6397.
- Dodge** or Plymouth, 383 c.i.d. block, 426 c.i.d. wedge heads & intake manifold. 213-323-4257.
- Skates**, sidewalk-type for 4 yr. old, size 8 or 9, used. 213-676-3050.
- Stenotype Machine**. 213-679-8397.
- Motorcycle Helmet**, Bell Star. 213-645-6211.
- Maintenance Manual**, B-35, & armament info or manual. Box 302.

## Free (To Be Given Away)

- Pups**, mixed weimeraner, born 1-1-72, male & female. 213-376-6397.
- Dog**, mixed poodle, champagne color, approx. 1½ yrs. old. 213-542-2128.
- Pups**, German shepherd, avail. April 15. 213-324-8704.

## Rentals Offered

- Home**, 2-bdrm., 1 bath, furn. or unfurn., No. Inglewood, lge. lot, 2-car gar., \$170 mo. 213-756-1812.
- Apt**, 3-bdrm., 1½ bath, shag cpts., dps., bltins, room for washer & dryer, encl. gar., 2 children allowed, no pets, \$225. mo. 213-676-0044, 213-327-1700.
- Apts.**, unfurn., 1 & 2 bdrm., f/place, pool, patio, security, air cond., s/proofed, shag cpts., bltins, from \$195-\$275 mo. 213-641-9700.
- Apt**, 2-bdrm., unfurn., oven & range btin, cpts., dps., pool, 2 blocks from Crenshaw/Pacific Coast Hwy., \$160 mo. 213-325-4580.
- Cabin**, Big Bear City, 2-bdrm., 1 bath, \$40. 213-320-6486.
- Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 w/end. 213-326-7232.
- Mountain Home**, Big Bear City, 2-bdrm., 1 bath, f/place, furn., \$35 w/end, \$100 wk. 213-823-1788.
- House**, Bass Lake, \$150 wk. 213-374-3702.

# NORTHROP SON WINS HONORS

Ted E. Holloway, Jr. the son of Geraldine O'Malley of the Aircraft Division, has been named Honor Agent of the quarter by the Liberty National Life Insurance Co.

Mr. Holloway worked for the Aircraft Division three years prior to his present job. His brothers, Tom and Jerry, were also Aircraft Division employees.

## Rentals Offered

- Cabin**, Lake Arrowhead, family only, \$125 wk., \$55 w/end. 213-831-1745.
- Condominium**, at Mammoth Mountain, 1-bdrm., sleeps 5, kitchen & linens supplied, \$40 w/end, \$60 midwk. 213-785-1405.
- Condominium**, Palm Springs area, furn., 2-bdrm., heated pool, \$100 wk., \$60 w/end. 213-327-8994.
- Apt**, 2-bdrm., unfurn., sub. parking, pool, bltins, custom cpts. & dps., 10 min. to Northrop, \$175. 213-670-6084.
- Apt**, 2-bdrm., unfurn., avail. April 22, bltins, cpts., dps., closed locked gar., storage, pool & patio, near El Camino, \$165. 213-324-8373.

## Child Care

**Child Care** offered, my home, daily, El Camino College area. 213-324-8428.

## Personals

My deepest gratitude to my friends at Ventura for their kindness at the passing of my husband, Dick. SHIRLEE COMBS.

**Dressmaking & alterations**, references, reasonable. 213-323-1476.

A sincere thank you to everyone at Northrop that helped in making my recovery as pleasant as possible. DAVID HARDMAN.

**Ride Wanted**, 8 a.m.-4:42 p.m., Crenshaw & 170 St. to Plant I or Plant II, Aircraft ext. 2647, 213-324-5169.

Thanks to all my friends & NRC for the cards & flowers during my recent illness. ROY EVERS.

Our most sincere thanks to all of our friends at Northrop for their many expressions of sympathy, flowers & donations in memory of my husband, Glenn W. Thornton. VIRGINIA THORNTON, DAUGHTERS & ALL OF THE FAMILY.

We wish to express our appreciation to everyone for their kindness & thoughtfulness during the illness & loss of our husband & father. MRS. FRANCES KUCK & SON, TOM.

**Ride Wanted**, 8 a.m.-4:42 p.m., Western & Plaza Del Amo to Aircraft Div., Aircraft ext. 2164. 213-328-6968.

**Ride Wanted**, 3:42 p.m.-12:12 a.m., Anza & 190th St., Torrance, to Aircraft Div., Aircraft ext. 2267. 213-371-5410.

The years of work & travel for Northrop were most rewarding; the retirement party & gifts were great; thanks to so many friends for so much. M. S. JOHNSON.

I wish to express my gratitude to all of you with whom I have worked & thanks for my retirement party & gifts. OLIVER LAMB.

I wish to express my gratitude to my friends at Northrop & extend my thanks to all for making my retirement party such a memorable occasion. MARIE MURNANE.

We would like to express our sincere gratitude to all our friends at Northrop for their generous contributions & deep concern in the recent loss of our father, Frank R. Diel. LARRY, GARY, MIKE & DANNY, SONS OF MARY ANN DIEI.

Special thanks to all my friends at Northrop for their kind expressions of sympathy & gift to the American Cancer Society in memory of my sister, Naomi Holland. MARQUA DEGONIA & FAMILY.

A sincere thank you to my many Northrop friends who remembered me during my recent surgery & convalescence. TED GARVEY.

We wish to extend our hearty appreciation to all for their concern & thoughtfulness during my illness & recovery. HOWIE & BARB WALKER.

## For Sale or Trade

**Jig Saw**, hvy. duty, 18" belt driven, w/motor, steel base, \$30 or trade for drill press. 714-637-4723.

**Beach Lot**, hillside, w/complete plans for residence, in northern Playa del Rey, \$18,500 or trade for dn. pymt. on apt. bldg. 213-821-4180.





**30-YEAR MAN, JIM JOHNSON, GOT SPECIAL GIFT**  
Presented by George F. Douglas, left, John E. Evans, and Bill Kearney, right.

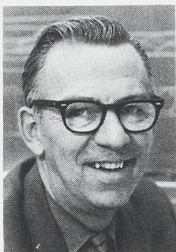
## Long Service Rewarded

When Jimmy Johnson received his 30-year pin last month former Ventura General Manager George F. Douglas, now a Northrop senior vice president, joined John E. Evans in giving Mr. Johnson a combination weather forecaster/clock.

This month's top service pin recipient, Harry Clausen, will be honored by Mr. Evans, too, with a personal presentation of the 20-year emblem.

Mr. Clausen, an engineering specialist in Target Systems, joined Northrop in 1952 at the Aircraft Division and transferred to Ventura in 1957. He's been here ever since.

Qualifying for 10-year pins in March are Bill



Mr. Clausen

## SHOW DISCOUNT

Venturans who hold Pacific Drive-In Theater discount tickets had better use them by the end of the month or redeem them for cash by March 29.

"The ticket price will be going up a little bit and Pacific won't honor the tickets after March 31," explained Rec Club President Bob Calhoon.

He said Rec Club officials will be in the Rec Club office March 27-29 from 11:30 a.m. to 12:30 p.m. to redeem tickets. "Everyone holding the tickets will have to redeem them or forfeit the ability to use them—or else buy the new ones," he added.

**IS IT NEWS?  
CALL EXT. 1425  
VENTURA**

Kearney, manager of Production; Barbara Richards, secretary to Warren Sparks; and Curtis Verge, Boeing 747 Shop Control.

Five-year pin recipients are Nate Phillips, Jerry Chotenovsky and C. C. Gray.

## Billiards Is Fast Grower

Bill Mullins, a paradyamics engineer, is commissioner of the Rec Club-sponsored Pocket Billiards Club. It has 23 members and is "growing fast," Mr. Mullins reports.



Mr. Mullins

Assisting him are Ken Conger, vice-commissioner; Dave Coe, handicapper; Ray Janis, treasurer; Robert Provart, noon-time tournament director; and Dick Raney, 14-1 tournament director. Mr. Raney is also the outgoing commissioner.

The Pocket Billiards Club meets each Wednesday evening at the Recreation Club facility at the Ventura Division. It has tournaments each day during the lunch hour and an after-work tournament, too.

Venturans interested in joining the club are urged to contact Mr. Mullins at ext. 614 or Mr. Janis at ext. 1061.

## VENTURA PROFS

Frank Lund, manager of Personnel, is teaching "Labor Management Relations" at Moorpark College and Ivan Blum, Economics Analysis, is teaching two classes at California Lutheran College.

## Rod & Gun Club Presents Awards At Annual Dinner

Nearly 50 members of the Ventura Division Rec Club-sponsored Rod and Gun Club saw retiree John Lawrence receive the "Sportsman of the Year" award at the club's annual awards dinner and installation of officers at the Chatsworth Women's Center.

Two other men, Chuck Stokes and John Rowe, received awards for leading their teams in cumulative shooting and fishing activities. Hal Hunsberger was named "Outstanding Freshwater Fisherman" and Micki Shewmaker was judged best of the saltwater anglers.

Bill Shiffer received the "Top Shooter" award and Beth Hunsberger garnered the "Outstanding Hunter" title. A special award was also given to Les Hudson, a charter member of the club, who

has transferred to a Northrop overseas post.

Team standings at year's end saw the Bill Shiffer-led Red team amassing more points than the Blue team, headed by Martha Cleous.

Presiding at their first meeting were new officers including Harry Caseldine, commissioner; Dick Small, vice commissioner; Ralph Beattie, treasurer; and Dorothy Prychoda, secretary.

Also on the club's executive board are Karl Stoy and Hal Hunsberger, members-at-large; Don Kohn, past-president; Chuck Stokes, rod captain; and Vince Riley, gun captain.

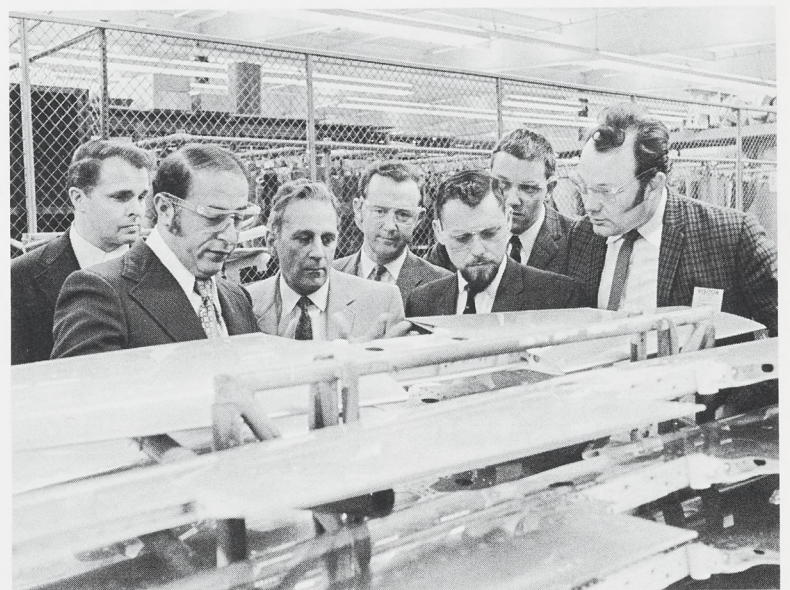
## In Memoriam

Ventura personnel extend their deepest sympathy to the family of Richard E. Combs who passed away Feb. 14 after a lengthy illness. Mr. Combs was a former Ventura employee. His widow, Shirlee, is a Material Receiving coordinator at Ventura.

## SOFTBALL START

Ventura Division softball players will be back on the practice diamond late this month getting ready for the Conejo Valley Recreation and Parks District's summer softball league.

Ralph Reeves, manager of last year's team, asks interested players to call him at ext. 407.



**BRITISH MEMBERS OF THE RNPTA Squadron** learned all about the MQM-74A/Chukar on a recent visit to Ventura. Checking wing assemblies with Bob Flink, left, of International Marketing, and Ray Lavi, manager of Target Systems, were Lt. Cdr. A. E. Fenton, third from left, and several members of his team of British Navy target specialists. The U.K. recently added the Chukar to its target inventory which already includes the Northrop KD2R-5.



# NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 30, No. 4

April 1972

## Ten Million in New Contracts Received

### \$5.3 for Navy MQM-74A

The U.S. Naval Air Systems Command has awarded the Ventura Division a \$5.3 million contract for the continued production of MQM-74A targets.

This new contract is the sixth MQM-74A production contract to be received by the Ventura Division since 1967 and brings the total number ordered to more than 1,700.

The MQM-74A is used by the Navy to train anti-aircraft missile and gunnery crews. Flown by remote control, the target is capable of speeds up to 460 mph at altitudes exceeding 20,000 feet.

Versions of the same target, known internationally as the Chukar, are used by NATO services at NAMFI on Crete. The Chukar is also in the inventories of the British and Italians.

### New Aerial Target for Army

The Ventura Division has received a \$4.2 million fixed price contract for development of a new aerial target for the U.S. Army.

The new target, designated the Variable Speed Training Target (VSTT), will be developed for the Army's Missile Command at Huntsville, Ala. Five firms submitted proposals and two contracts were awarded in competitive bidding.

Northrop's target will compete in a fly-off against another drone in the fall of 1973 at the White Sands (N.M.) Missile Range. A production contract is expected to be given to the winner of the fly-off.

Ventura's relationship with the Army spans the history of the division. The Army was Radioplane's first customer back in 1939. Since then more than 20,000 Northrop targets have been purchased by the Army.

J. H. Staley, division program manager for Aeronautical Systems, has announced that Aaron Feder will be project engineer. J. J. (Jimmy) Johnson will be in charge of production operations and A. H. (Al) Martin will head VSTT quality assurance.

Other key personnel in the program will be Bob Prieve, budgets; Percy Megginson, contracts; and Jim Brochu, product development.

### Initial Funding for MK 30

A \$1 million U.S. Navy contract initiating funding for production of more Mk 30 Mobile Anti-Submarine Warfare (ASW) target vehicles has been awarded to the Ventura Division.

This third Mk 30 production contract, awarded by the Naval Ordnance Systems Command, Washington, D.C., includes support equipment, special test equipment, spare parts, batteries and training.

Northrop's versatile Mk 30 underwater target is used to train ASW crews aboard surface ships, aircraft or submarines. The vehicle can be launched from surface ship or submarine, recovered at the conclusion of its mission and re-used.

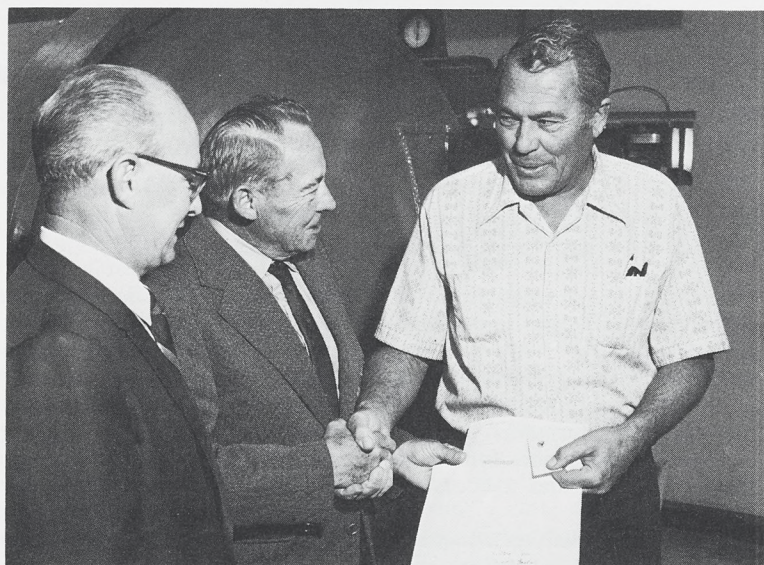
The Ventura Division has been producing the Mk 30 for the Navy since 1967.

### NORTHROP TO BUILD PROTOTYPE LIGHTWEIGHT FIGHTER FOR USAF

Northrop will build one of two prototype aircraft for the Air Force Lightweight Fighter Program under a \$39,078,715 contract. General Dynamics will build the second.

In announcing the contract,

Thomas V. Jones, Northrop president, said, "Northrop's selection was of particular gratification because the company's design team has concentrated its efforts on lightweight fighter technology for nearly a decade."



RECEIVING A CHECK FOR HIS INVENTION  
Bud Lindsay, right, honored by Harry Parker, left, and Mel Rich.

## Lindsay Gets Patent Award

Bud Lindsay, a technician in the Ventura Quality Assurance Laboratory, has received a \$100 check for an invention which qualified for patent application.

### Ventura's Chutes Set to Return Apollo Capsule

If everything goes as scheduled, Apollo 16 Astronauts John W. Young, Thomas K. Mattingly and Charles M. Duke will splashdown April 28 on their return from the moon.

Once again the Ventura-produced Northrop Earth Landing System will bring American space men home. Apollo 16 represents the 26th exercise of the Northrop system.

NASA is eliminating two possibilities which could have led to the anomaly in one of the Apollo 15 main chutes last August. Astronauts will not jettison the highly flammable RCS fuel this time. And the riser links have been changed to a stronger metal.

United Press International, in a dispatch from Washington last month, quoted Apollo 15 mission director Chester M. Lee, as citing the burning fuel as the cause for the single chute's collapse.

Presenting the check to Mr. Lindsay, who marks 15 years with Northrop this month, were Harry Parker, manager of Quality Assurance, and Mel Rich, chairman of the division's Patent Committee.

Mr. Lindsay's new approach to an ion exchange method of graphing plastic curing was the result of a year-long Northrop-sponsored program. The project covered curing of pre-impregnated broad goods such as those used in the 747 wing fairings and the Northrop A-9A fighter.

#### Commended

Mr. Lindsay also was given a personal letter of commendation signed by Northrop President Thomas V. Jones and a certificate noting his membership in the Northrop Honor Roll of Inventors.

"This was probably the best research and development project in the entire Corporation for the year," noted Mr. Rich. He said several other Ventura personnel have inventions being evaluated.

Mr. Rich and his committee of Hal Ort, Frank Tipton, Lauren Persons, and Enos Jeffs, coordinate with the Corporate Patent Committee to assist Venturans with patent possibilities and procedures.



## Bond Drive Opens May 8

The Annual Savings Bond Campaign at Northrop will begin May 8, according to Frank Smith, Corporate director of Industrial Relations.

"Savings Bonds now pay 5½ per cent when bonds are held to maturity," Mr. Smith said. "This compares most favorably with bank and savings institution rates since Series E Bonds are exempt from state and local income taxes. Also Federal income taxes may be deferred until the bonds are cashed."

Mr. Smith said that Northrop personnel have always been strong supporters of the Savings Bond Program. "The Northrop campaign this year will be conducted to give those who are not participating, an opportunity to get in on a genuine bargain, and also to provide a chance for those participating who would like to increase their payroll deductions for bonds."

Division bond coordinators and boosters will be appointed in each of the divisions to assist personnel who wish to join the bond program or to increase their bond allotment.

## 'Gleeble' Aids Research With Welding Processes

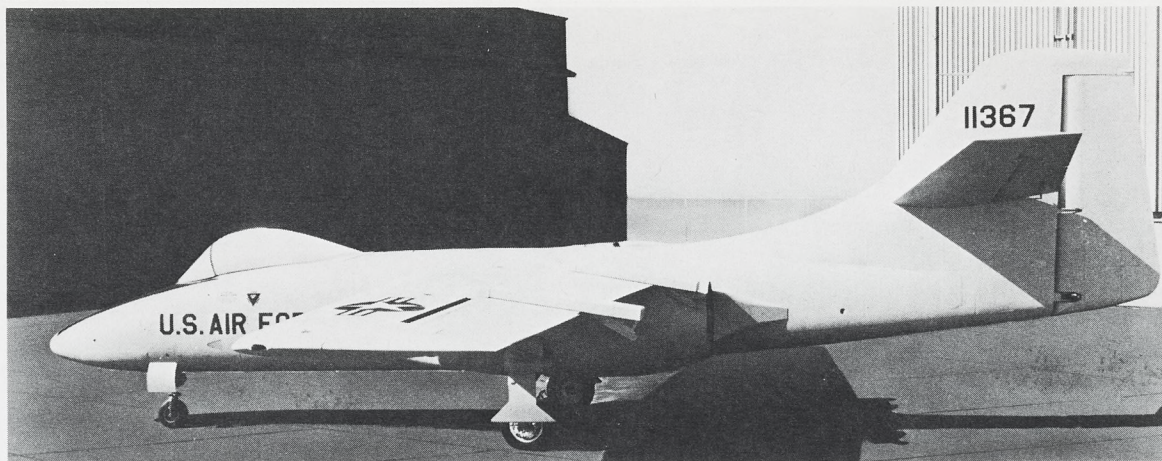
An oddly named machine is helping the Aircraft Division's Materials Research Department solve difficult metallurgical problems associated with welding processes, thereby contributing to greater aircraft safety.

"The machine was developed by the staff of the Welding Research Laboratory at Rensselaer Polytechnic Institute to study welding metallurgy," Northrop's K. C. Wu said. "Then they found it would do so many things that there was no name that would fit it. So as a joke someone stuck the name 'Gleeble' on the machine and it has been officially known as a Gleeble since."

The Gleeble consists of a control console and a testing unit. From the console, Mr. Wu can control the heating and cooling of test specimen to simulate a wide variety of welding conditions.

This enables welding metallurgists to develop an appropriate welding parameter.

In one of these units the machine can simulate extrusion of



NORTHROP CORPORATION'S A-9A CLOSE AIR SUPPORT PROTOTYPE

## A-9A Evaluation Begins Oct. 24

Between Oct. 24 and Dec. 23 prototype aircraft taking part in the Air Force AX specialized close air support flight evaluation will log 123 flying hours.

This information, along with details and specifications involving the prototypes, was contained in initial publicity released this month by the USAF.

Northrop's A-9A and Fairchild Industries' A-10A will compete in the "fly-before-buy" evaluation at Edwards AFB. Each contractor will conduct its own flight test program prior to the

official USAF evaluation in flight tests to begin in the late spring.

The 123 flying hours include 54 hours in weapons delivery, 43 for aircraft performance and flying qualities, 20 hours for operational suitability and 6 hours for systems tests.

The flight evaluation effort will be followed by a maintenance demonstration between Dec. 26 and Jan. 2, 1973.

The A-9A developed by Northrop is a high-wing, single-place aircraft powered by two Avco Lycoming Division F-102 engines, each delivering more than 7,000 pounds of thrust. It is 53½ feet long, has a wing span of 58 feet, and is 17 feet high. In the A-9A the pilot sits in a "bathtub of armor" which will provide protection during the close air support mission. The A-9A features foam-filled fuel tanks in the wings well away from ignition sources. All maintenance functions can be performed at ground level on the A-9A.

In addition to the armored cockpit, AX prototype aircraft

feature redundant flight controls. Should one of the aircraft's primary hydraulic systems become inoperable, the other will continue to operate. A third manually operated system is available should both hydraulic systems fail. Flight control cables are shielded and run separately from the cockpit to the control surfaces for additional safety.

The A-9A's bubble canopy gives the pilot a 360-degree excellent over the nose visibility to reduce chances of a surprise attack and provide optimum target observation.

Production versions of both aircraft will feature 30mm Gatling type cannons in the nose. Prototypes will be equipped with 20mm Gatling guns for tests.

Colonel James E. Hildebrandt heads the AX System Program Office for the USAF Systems Command's Aeronautical Systems Division.

USAF flight evaluation will be conducted by a joint test team from Tactical Air Command, the using organization, and Systems Command, the developer.



DAYLIGHT SAVING TIME begins Sunday, April 30, and Pat Schreiner, Ventura, has a problem setting this sundial forward one hour to be on time. The sundial belongs to Mac Pakula and the clocks to S. A. Ashworth.



## Northrop Page Dedicates New Headquarters Facility

Northrop Page Communications Engineers, Inc., dedicated new headquarters facilities in this Washington, D.C. suburb March 23 with Virginia Governor Linwood Holton the principal speaker.

The \$6 million office building is part of a complex known as Northrop Page Technology Park. It houses Page's headquarters as well as those of another Northrop subsidiary, Northrop Airport Development Corporation.

Speaking at the dedication ceremony were the governor; J. A. Waldschmitt, president of Page and one of the five communicators who founded the firm in 1947, and F.W. Lloyd, Northrop senior vice president, representing President Thomas V. Jones.

Mr. Waldschmitt told the assembled Page employees that the building and its surrounding grounds were "the result of your hard work," and extended his gratitude to all of them. He thanked Vienna and Virginia of-

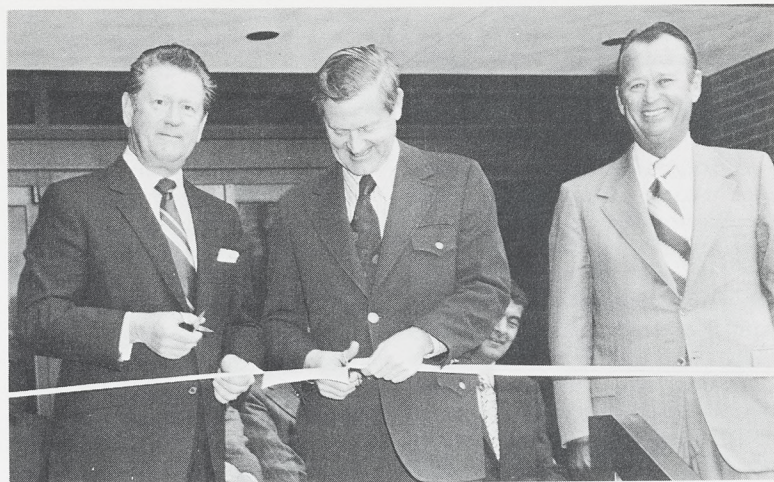
ficials for their "warm welcome to your fine State of Virginia."

Governor Holton called Page "an organization that is helping people keep in touch" through its worldwide communications activities. The governor, who takes pride in the new business attracted to Virginia during his administration, slipped in an oblique invitation to Northrop to bring its corporate headquarters to Vienna, as well.

"Northrop Page is here," he remarked. "Where's Northrop?"

Mr. Lloyd said the new facility reflects company policy of investing assets in facilities and equipment "that will result in our doing the best job for our customer." He extended to Governor Holton a personal invitation from Mr. Jones to visit California, stating that if Virginia ranks as the "first" state then California runs a close second.

Page and NADC formerly were located in the District of Columbia, in a building just north of the Georgetown section.



**DEDICATING NEW NORTHROP PAGE FACILITY**  
J. A. Waldschmitt, left, Governor Linwood Holton, F. W. Lloyd.

## Rome Office Manager Is Veteran Pilot, Executive

Oddone Colonna, manager of Northrop International's liaison field office in Rome, has been directly associated with aircraft, electronics and communications in his native Italy for well over three decades.

His long career has included service as a military and civilian pilot and extensive background in the development and sales of many types of systems and equipment.

Mr. Colonna is typical of men who serve Northrop at widely scattered points around the globe, supporting all company business elements and activities.

### Second in a Series

Mr. Colonna assumed his present post in 1966 after serving as a Northrop consultant from 1959 to 1966.

A graduate of the Italian Air Force Academy, Mr. Colonna spent World War II as a fighter pilot.

On Easter Sunday in 1945 he took part in the final aerial combat sortie before the fall of Italy. It led to his becoming a "pen pal"

of nine Americans and a pair of unusual reunions.

As leader of a flight of four Messerschmitt ME-109s, Mr. Colonna attacked a U.S. Army Air Corps B-24 bomber over Switzerland. The bomber fell in flames, but the nine crew members parachuted to safety. Despite nine shell holes in one wing, Mr. Colonna returned to his base where he met, briefly, the B-24 pilot and two other crew members who were being interrogated.

In 1962 Mr. Colonna obtained the names and addresses of the crew members and started a letter writing exchange that continues today. A year later he held a reunion with the pilot, General Electric's W.L. "Todd" Sutton, in New Orleans. Two years ago, Mr. Sutton and his wife visited Mr. Colonna and his family in Rome.

After the war, Mr. Colonna became an instructor pilot for two commercial aircraft firms, then returned to active duty from 1950 to 1956. His duties included a tour as aide to Maj. Gen. D. Schlatter, USAF, commander of the Allied Air Forces Southern Europe.



**ODDONE COLONNA**



**THEIR WORK DECORATES NCL WORK AREA**  
Reg Allen, left, Erna Dillard and Larry Churchill, artists.

## Artist Trio Helps Brighten NCL Office

Three talented Northrop Corporate Laboratories employees are pooling their artistic talent to help brighten a busy Information Sciences office area.

The three—Erna Dillard, Reg Allen and Larry Churchill—bring in their art work for display on a rotating basis.

Reg, an engineer, turned to painting as a hobby about a year ago upon completion of a semester of art study at El Camino in Woodland Hills. He works in oils and prefers landscapes of typical

Southern California origin. He may sketch a scene for painting later or work from photographs. His wife, Joy, shares his interest in painting as a hobby.

Larry, a program administrator, specializes in metal sculpture, turning out his art forms in a shop set up in his garage. Over the past three years he has turned out "20 or 30" pieces, ranging from a full-scale bridge to birds and animals. Larry's friends receive most of his work as gifts.

Erna is a technical specialist

who favors oil and water color painting. She has attended a number of classes in Simi Valley. She paints still life, but really favors alpine scenery, much of it painted from memory of happy years spent in the Alps of Europe. Erna's mother and son share her interest in painting.

Barbara Jones was the originator of the idea of using walls in the office area as an art gallery. She helps arrange the paintings and encourages the artists to rotate their works from time to time.



## Shearer Recalls Therapy Work on P-61 Black Widows

A forgotten chapter in Northrop history came to light when the Electro-Mechanical Division's Bert Shearer, recently celebrating his "official" 25 years with the company, recalled his "pre-start" with Northrop two years before this.

Before Mr. Shearer joined Northrop as a regular employee in 1946, he spent a year working part time from a wheelchair and crutches in a Van Nuys hospital ward assembling parts for the Black Widow P-61 night fighter Northrop was building for the U.S. Air Force.

"When manpower was so critical during World War II, Jack Northrop got the idea of utilizing ambulatory patients in Army hospitals," Mr. Shearer recalled. "Many of these needed work therapy as part of their treatment."

A plan was worked out with the Army's Birmingham General

Hospital in Van Nuys. Patients needing work therapy who wished to volunteer could work up to two hours a day on sub-assembly work, and would be paid regular hourly wages.

Northrop set up a shop in one wing of the hospital. Work benches, equipment, and a foreman and leadman were brought from Hawthorne. As many as 50 soldier-patients took advantage of the opportunity to work in the shop. In addition, others confined to their beds were utilized in assembling small parts.

Mr. Shearer was wounded at Anzio in the Italian campaign. He was sent back to the Van Nuys hospital because it was near his home. When he first volunteered for the Northrop work-therapy program he was in a wheelchair, but later he graduated to crutches.

"We had no formal training in assembly," he recalled. "A foreman and leadman told us what to do and then checked our work. My work was assembly of throttle quadrants."

"It was a wonderful program. It gave us something to do and kept us from getting bored. At the same time we felt we were making a definite contribution to the war effort for the P-61 was directly responsible for ending night raids by German aircraft. And, of course, the extra pay helped too."

Mr. Shearer worked with the program part time until his discharge from the hospital in 1945.

## NRC Slates Big Disneyland Night For Family Fun

An all-new "Bear Country" will be among the more than 50 attractions available to Northrop families May 20 when NRC sponsors its annual "Night at Disneyland."

Tickets for this event are now available through all NRC ticket outlets at all divisions and facilities.

The \$4 per person tab includes admission to the park and unlimited use of all facilities and attractions, excluding shooting galleries, throughout the evening.

All of Disneyland will be reserved for the exclusive use of Northrop families from 8:30 p.m. until 1:30 a.m.



THESE STITCHES TOOK TIME  
Dolores Watson shows prize-winning needlecraft article.

## Negative Knit Notion Is Thing of Past for Dolores

Dolores Watson spent half her life telling herself she couldn't knit. Then when she finally did knit she won all three first prizes at an arts and crafts show in Huntington Park.

Her entries included a white one-piece dress made with a complicated fisherman's knit stitch, a one-piece dress and jacket of her own design, a man's sweater, a two-piece suit, and an afghan.

Mrs. Watson first learned the rudiments of knitting as a 10-year-old girl attending a YWCA "Home Camp." The instructors taught her to knit in horizontal lines, but then they would always complete the difficult turns which required diminishing stitches.

"They said this was too difficult for us and I got the idea that I could never knit," Mrs. Watson said.

### Took Lessons

Then about seven years ago she happened to pass a knit shop where a group of women were taking lessons. "They were struggling so hard that I felt I could do as well as they," she said. "So I began taking lessons and found I had been wrong all these years. Knitting is really simple. Anyone can knit if you concentrate."

Soon she had progressed to the point where she was knitting entire ensembles, using complicated stitches and unusual materials. On one of her recent knit dresses she worked about eight hours for each inch of dress length due to the complexity of

the pattern stitch. Such a dress is worth several hundred dollars just in labor alone, if she should cost account her time.

Another recent project she knitted was a dress with metallic strands woven into the skeins of wool she used. Another was an unusual set of bathroom curtains. These were knitted with jumbo needles measuring one and one-half inches in diameter in order to achieve an open work effect. Heavy velvet yarn was used for the material.

Despite the prizes she has won and the extraordinary articles she has made, Mrs. Watson is proudest of her accomplishments in persuading some of her friends and neighbors to take up knitting.

### Easy to Knit

"I could identify with them," she said. "They thought knitting was too hard. This is wrong. Anyone can knit and knit well if they will just apply themselves."

After mastering the rudiments of knitting it is natural to want to progress to the more intricate stitches and more difficult patterns. Knitting becomes more exciting all the time and each difficult pattern stitch holds great fascination. To Mrs. Watson the patterns become a picture as they are knitted, much like an oil painting comes to life through the hands of the artist. One of her greatest rewards in knitting is the creativity and perfection that she can accomplish through the intricate stitches.



BEAR COUNTRY  
Now at Disneyland.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Volkswagen**, 1968 squareback, radio, \$1,250. 213-375-9397, 213-375-2091.

**Jaguar XKE**, 1963 coupe, chrome wide whls., Pirelli tires, extras, \$1,500. 805-482-5451.

**Fiat 850**, 1969 sport cpe., new batt., clutch, valves & brakes, \$950. 213-457-9600.

**Jeep**, 1966 CJ-5A, canvas top, roll & tow bar, \$1,500. 213-374-0510.

**Power Wagon**, 1960 Dodge, 4x4, winch, extra gas, rblt. eng. & transfer case, \$1,500. 805-497-2823.

**Maverick**, 1970, big 6, r/h, 22,000 mi., \$1,500. 213-625-1020.

**Volkswagen 1300**, 1966, radio, new tires, clutch, \$595. 213-596-0433.

**Volkswagen Bus**, 1965, Porsche powered, wood panelled, \$995. 213-821-4180.

**Cadillac**, 1968 convt., \$2,900. 213-754-3903, 213-779-6805.

**Ford**, 1963 Gal. 500, r/h, p/s, p/b, motor & radiator rebilt., \$400. 213-378-4676.

**Oldsmobile**, 1961 88, 2-dr., \$175. 213-842-8724.

**Race Car**, G production Triumph Spitfire, ideal for new SCCA drivers, \$1,100. 213-832-3852.

**Karmann Ghia**, 1961 w/remanufactured eng., stick shift, r/h, \$299. 213-889-0191.

**Datsun**, 1967, 4-spd., r/h, just o/hauled, \$375. 213-676-5141.

**Volkswagen**, 1969, r/h, 28,000 mi., \$1,295. 213-672-7084.

**Ford**, 1965, a/c, p/s, new auto. trans., \$500. 714-595-3398.

**Mercury**, 1970 Cougar XR7, a/c, p/s, p/b, p/w, htr., AM radio, 8-track stereo tape deck, less than 19,000 mi., \$2,995. 213-325-3257.

**Station Wagon**, 1964 Olds, 9-pass., p/s, p/b, fact. air, \$395. 213-860-6959.

**Chevelle Malibu**, 1966, 2-dr., auto., V-8, r/h, \$700. 213-670-3713.

**Chrysler**, 1963 convt., full power, air, auto. pilot, 60,000 mi., \$450. 213-375-6773.

**Renault R10**, 1968, \$650. 213-831-5304.

**Ford**, 1963 fastback, 2-dr., new paint, tuck & roll int., \$475. 213-329-6174.

**Chevrolet**, 1968 Impala, 2-dr., new tires, auto. trans., p/s, p/b, a/c, \$900. 213-374-0664.

**Fiat**, 1961 1500 convt., dual ovhd. cam eng., r/h, 4-spd. trans., \$550. 213-675-1354.

**Opel Kadett**, 1969 Sports Rallye, fully equipped, \$1,150. 213-377-2657.

## Miscellaneous For Sale

**Tape Recorder**, stereo, 1970 Panasonic, spkrs. enc., 2 mics., 4 heads, \$175. Box 401.

**Boat**, 15' fiberglass, 35 h.p. Evinrude motor, trailer, \$525. 213-833-9546.

**Poodle**, black male, miniature, 3 mos. old, AKC, \$60. 213-320-0363.

**Bicycle**, man's, 10-spd. & handbrakes, English make, \$35. 213-674-9627.

**Trailer**, small flatbed, \$35. 213-671-0357.

**Starcraft**, 1971, 14' fiberglass hull, 1969 Mercury 65 h.p. eng., 1971 little dude trailer, \$1,700. 213-324-2471.

**Sofa**, French Provincial, 2 marble topped tables, lamp, \$100. 213-644-2175.

**Sofa**, 8', \$125. 213-676-5770.

**Great Books** of the Western World, vols. 1-54, \$150. 213-675-6233.

**Sailboat**, 15' Glen L, trailer, cover, \$700. 213-963-5524.

**Snow Tires**, 2, mounted, & rims, 8.25x14, \$5. 213-325-3675.

**Wedding Dress**, lace, size 14, \$35. 213-329-7214.

**Rifle**, Weatherby .300 magnum, Kahle 4X scope, Redfield mounts, \$300. 213-375-6071.

**Tent**, 9x12, Wards, ext. alum. pole, \$30. 805-498-2787.

**Lot**, 60x100 in Tahoe Paradise, 4 miles from South Shores Casinos, \$7,000. 213-329-4762.

**Chairs**, 2 uphol., brown & tan, \$25 ea. 213-678-1446.

**Pole Lamp**, brass, w/3 crystal round hanging globes, \$5. 714-830-3048.

## Miscellaneous For Sale

**Turntable**, Garrard, Harmon-Kardon tuner/amplifier, stereo tape deck, in 6' oiled walnut Barzalay cabinet, \$100 or will sell sep. 213-275-7341.

**Rug**, variegated blue & green, all wool, 5 1/2 x 9, \$50. 213-327-2493.

**Water Bed**, 3/4 size, & frame, \$30. 213-675-6020.

**Camera**, Yashica Lynz 5000, f-1.8 lens, bltin elec. eye, case, \$50. 213-851-1376.

**Piano**, upright, modern style, walnut covered finish, \$200. 213-696-7529.

**Pictures**, 9, antique orig. water color, Oriental, 3 in set, \$130. 213-326-0124.

**Pool Table**, 3 1/2' x 7', \$40. 213-423-1363.

**Crib**, Edison, white, mattress incl., \$20. 213-679-5506.

**Pistol**, Luger, 9mm, all matching nos., re-blued, \$125. 213-375-4312.

**Engine**, 396 C.I.D. Lincoln, 100 mi. since complete o/haul, access. & trans. avail., \$450. 213-676-3095.

**End Tables**, 2, Danish walnut, never-mar finish, 26" sq., \$15 ea. 213-541-3000.

**Motorcycle**, 1971 step-thru Honda 70, elec. starter, extras, \$150. 213-831-3737.

**Rims**, set of 4, std., for Camaro & 4 wheel covers, 2 7.35x14 tires, \$29 or sell sep. 213-323-8797.

**Camera**, Mamiya 16 auto., bltin photocell, 4x1 1/4x1 1/4", weight 10 oz., \$55. 805-492-1633.

**Desk Chair**, exec., swivel, arms, high back, black leather uphol., \$60. 213-675-6668.

**Fish Tank**, 15 gal. & 10 gal., wrought iron stand, \$50. 213-926-5331.

**Acreage**, 2 1/2 acres, Antelope Valley, water & elec. to prop. corner, \$400 dn, \$45 mo., 7%, \$4,950. 213-378-1026.

**House Trailer**, 1968 Field & Stream, 15', \$795. 213-374-7291.

**Lot**, 52 x 110, view, huge trees, walk Lake Gregory, San Moritz Club, Crestline, terms, \$3,950. 213-377-1074.

**Motorcycle**, 1969 Honda CL-125, \$225. 213-377-5897.

**Occasional Chairs**, 2 matched, custom, coral & gold, \$35. 213-670-2564.

**Typewriter**, Royal portable, script print, \$20. 213-541-2710.

**TV**, Sears Silvertone, 21", color, table mod., \$200. 213-832-3857.

**House**, 2-story, 4-bdrm., 2 baths, f/place, bltins, cpts., dps., G.I.-FHA conv. financing avail., Cerritos area, \$32,500. 213-860-3022.

**Hair Dryer**, Kenmore, stand type, \$15. 213-370-6896.

**Refrigerator**, G.E., freezer drwr. on bottom, \$85. 213-675-5258.

**Bird Cages**, 48x24x31, 48x21x55, \$10 ea. 213-373-3386.

**Table Lamp**, Early American w/dec. custom shade, \$20. 213-325-5245.

**Motorcycle**, 1971 Harley Davidson, 74 cu. in., 8,500 mi., \$2,300. 213-324-8437.

**Piano**, spinet, w/bench, mahogany, \$325. 213-530-0765.

**Stereo System**, Heathkit SD-1, stereo FM tuner, phono, spkrs., cabinets, \$85. 213-846-5589.

**Ski Boots**, men's 9 1/2 & stretch pants, German made, \$20. 213-324-1908.

**Utility Trailer**, 4' x 7' bed, \$35. 213-326-6214.

**Flute**, Bettoney, \$100. 213-865-5084.

**Bed**, dble., w/headboard, walnut, \$35, other misc. items. 213-641-0683.

**Doors**, 6, used, int. painted, 4 are 30" wide, \$5. 213-675-8813.

**TV**, Zenith color console, 8 yrs. old, \$50. 213-327-4585.

**Motorcycle**, 1971 Yamaha Mini-Enduro, 60 cc, exp. chamber, \$245. 714-528-8582.

**Couch**, 8', Danish, \$80. 213-376-8372.

**Ham Equipment**, tubes, pr., 4CX250B, \$10, other items. 714-639-4438.

**Outboard Motor**, 5 h.p., Elgin, \$60. 213-755-6118.

**Piano**, console, 5 yrs. old, 77 keyboard, \$300. 213-323-0474.

**Accordion**, Universal, 120 bass, \$100. 714-842-4283.

**Hide-A-Bed**, Early American, gold naugahyde, \$135. 213-329-1565.

**Sail Boat**, 16 1/2" Fire Ball, trailer, Dacron sails, extras, \$800. 714-893-0414.

**Dryer**, G.E., 1 1/2 yrs. old, \$75. 213-373-4336.

**House**, 3-bdrm., 1 1/4 baths, family rm., f/place, bltins, Torrance West High area, \$37,900. 213-370-1891.

**Motorcycle**, 1969 Honda SL 90, 2,000 mi., \$210. 213-596-2039.

## Miscellaneous For Sale

**Dishwasher**, G.E. portable Mobile Maid, 8 yrs. old, needs light repair, \$25. 213-867-1651.

**Outboard Motor**, British Seagull, mod. 40, featherweight, 2 h.p., used 10 hrs., w/case, \$100. 213-645-7931.

**Stereo**, walnut console, Telefunken, tape recorder, \$425. 213-675-7673.

**Crib**, w/mattress, white, drop sides, \$22.50. 213-376-4831.

**Houseboat**, 1969 mod., 38', twin eng., ocean-going, \$15,500. 213-320-3583.

**Swim Fins**, Duck Feet, 2 prs., lge. size, \$3 pr. 213-675-2005.

**Washer**, G.E., \$25. 213-329-2330.

**Typewriter**, IBM elec., \$165. 213-673-5614.

**Pup**, Dalmation, AKC reg., female, 4 mos. old, \$50. 213-676-6187.

**Encyclopedia**, 15 vol. 1881, \$40, many other antiques. 213-474-5726.

**Iguana**, 3 6" long, lge. cage & access., \$25. 213-644-2487.

**Crib-Playpen**, collapsible, \$7. 213-645-7972.

**Glassware**, depression, & old dolls, 50c & up. 213-670-7940.

**Bucket Seats**, 2 deluxe Ford van, seatbelts & holders, \$40. 213-371-2948.

**Bicycle**, boy's 20" Stingray, \$20. 213-833-7722.

**Motorcycle**, 1967 Triumph, 650 cc, recently rebilt., \$800. 213-323-9003.

**Roaster Oven**, Westinghouse, lge. size, \$10. 213-329-6748.

**TV**, Magnavox, color, 24" screen, console-type, \$299. 213-939-4213.

**Motorcycle**, 1966 Honda, CL160, dirt tire & gear, \$225. 213-645-8004.

**Camping Trailer**, 13' 1965 Cardinal, stove, ice box, sleeps 5, \$595. 714-828-2815.

**Motorcycle**, 1970 Honda CT 70, \$195. 714-635-2539.

**Camper**, 1971 11' Week-N-Der, fwd. kit. dble. sink, stove, 3-way refig., queen cabover bed, 8'x14' patio, many extras, accept shell w/cargo dr. as part pymt., \$1,995. 213-943-1031.

**Typewriter**, Underwood Master, \$30. 213-677-7421.

**Home**, 3-bdrm., 1 1/4 bath, fam. rm. & P.V. f/place, h/wood flrs., det. dble. gar., fenced yd., 2 miles from Aircraft Div., \$31,900. 213-327-2279.

**Boat**, 14' glass o/wood, steering & controls, steel trailer, 25 h.p. Mercury, \$400. 213-896-7849.

## Wanted to Buy

**Railroad Ties**, 8 to 10, reasonable price. 714-633-5826.

**Hide-A-Bed**, dble. size, pref. Simmons. 213-676-6298.

**Oldsmobile**, 1954, good condition. 213-377-5362.

**Speakers**, 2, in sep. encls. for stereo system. 213-242-9723.

**Code Machine**, key cutting type, locksmith tools & supplies. 213-645-1489.

**Lawn Mower**, reel-type, power. 213-372-7270.

**Truck Manual**, 1960 Chevrolet. 213-378-3017.

**Camera**, late model Hasselblad, w/ or w/out access. or Rolleiflex, call collect. 805-948-1251.

**Volkswagen**, squareback, 1971 or 1972. 213-323-6039.

## Free (To Be Given Away)

**Dog**, female, beagle/dachshund comb., loves adults but not children, 213-644-3957.

**Kittens**. 213-635-7942.

## Rentals Offered

**Apts**, new shag cpts. & dps., pool, gars., single furn., \$130, 1-bdrm. unfurn. \$135, \$155 furn. Box 402.

**Apt**, unfurn. 1 & 2 bdrm., f/place, patio, aircond., shag cpts., FM music, s/proofed, bltins., 3-way mirrors, lath & plaster, from \$175-\$235 mo. 213-641-9700.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only \$125 wk., \$50 w/end. 213-326-7232.

**Mountain Home**, Big Bear City, 2-bdrm., 1 bath, f/place, furn. incl. linens, \$35 w/end, \$100 wk. 213-823-1788.

**House**, Bass Lake, \$150 wk. 213-374-3702.

**Cabin**, Big Bear Lake, 2-bdrm., 1 bath, sleeps 8, f/place, furn., 5 acres of b/yard, \$100 wk., \$45 w/end. 213-325-8267.

**Cabin**, Big Bear City, 2-bdrm., 1 bath, \$40. 213-320-6486.

**Vacation Cabins**, Idyllwild, 1 & 2 bdrm., stream, patio, f/place, \$30-\$40 w/end, \$70-\$90 wk., 213-868-8040.

# ICE CAPADES

Time is running out for the purchase of discount tickets to the Sunday (April 23) 5 p.m. performance of Ice Capades at the Los Angeles Sports Arena.

NRC has obtained a block of 500 "best in the house" seats normally selling for \$5 each. Employees may buy them at regular ticket outlets for just \$3.50 each.

## Rentals Offered

**Apts**, Redondo Bch., 1 mo. free rent, 3 bks. to ocean, 1-bdrm. \$145, 3-bdrm., 2-bath \$220. 213-372-2348.

**Cabin**, Lake Arrowhead, no. shore, 200 ft. from lake, pvt. dock, \$125 1 wk., \$200 2 wks. 213-375-2255.

**Cabin**, Lake Arrowhead, family only, \$55 w/end, \$125 wk. 213-831-1745.

**Camper**, 11' 1971 pickup, sleeps 6, \$100 wk. & 5c mi. 714-544-0773.

**Apt**, 2-bdrm., no stairs, unfurn., bltins, cpts., dps., pool, 2 blocks from Crenshaw/Pacific Coast Hwy., \$160 mo. 213-325-4580.

**Cabin**, Arrowhead & Running Springs, sleeps 4-5, \$30 w/end. 213-370-7105.

**Apt**, 2-bdrm., unfurn., d/stairs, locked gar., cpt., dps., bltins., lge. pool & patio, near El Camino, adults, \$165. 213-329-5986.

**Condominium**, 2-bdrm., Palm Springs area, furn., heated pool, \$100 wk., \$60 w/end. 213-327-8994.

## Child Care

**Childcare** offered, my home, weekdays. 213-865-7594.

## Personals

Thanks to the members of Northrop who were so generous & for the flowers at the passing of our wife & mother. BARBARA, ROD & HARP SMITH.

I would like to thank all of you for thinking of me during my recent hospitalization & recovery. CHRISTINE LUCERO.

Will pay 10% int. on 2nd trust deed for \$2,400, good so. Redondo property, 5 yr. term. 213





**TWO ENTRIES** in the upcoming Miss Conejo Valley Beauty Contest toured Ventura recently and inspected an MQM-74A target wing being assembled. Marion McCan, left, a Newbury Park High student, is sponsored by the Ventura Management Club in the event, while Kathy Youngers, a Thousand Oaks High student, is the daughter of Ventura's D. A. (Dutch) Youngers.

## PLANE THEY HELPED BUILD

# Forty-Seven View A-9A

Forty-seven Venturans who had a direct hand in producing the plastic parts for the Northrop A-9A prototype fighter aircraft saw the fruits of their labor last week.

They boarded a bus and drove to the Aircraft Division where the aircraft is receiving final touches before being shipped to Edwards AFB for flight tests.

Representing Quality Control on the trip were J. R. Brokaw, Bill Stewart, Roy Fox, Norm Ruhl and Della Vickers. Manufacturing Engineering sent Gene Gough and George Avery.

Production Control people were Jack Moore, Maxine Leonard, Jim Rundgren, John Howorth, Paul Scott and Frank Weiss.

Miscellaneous Plastics personnel who went included Frank Cua, A. N. DeFlores, John Baladonado, John Iwanczyk, Zelda Hampton, Juanita McCartney, Sue Amison, Nacho Romero, Danny Beltran, Rose Harrington, Helen Palenko, Kenny Mah and Mario Silos.

Personnel normally assigned to 747 areas who helped out on the A-9A parts and went on the one-day trip were Paul Friedman, Sam Trinkle, Paul DePriest, Harold Hawley, Les Gunderson, M.

Souza, Midge West, Dolores Mackey, Alma Arroyo and Gene Baca.

Also, Sonya Greenberg, A. M. Colborn, Dianne Wooley, Fred Berumen, J. D. Savala, Celia Hagler, Diane Ramey, Eli Salas Jr. and Tony Sotelo.

Four production managers, Gordon Smith, Glen Estes, Ray Escott, and Harvey Berry, also accompanied the group. Bill Kearney, manager of Production, made the arrangements.

## SERVICE PINS

Bud Lindsay, of Quality Assurance, tops the April list of Ventura Division service pin recipients as he marks 15 years with Northrop. There were no 10-year pin recipients.

Receiving five-year pins were Harvey Berry, Marv Bullock, Rollin Lemm, Neil Harris, Terry Chin, Fred Berumen, John Murphy, Reese Briggs, Jim McIntire and Herb Covell.

## Two Ties Mark Bridge Tourney

Tie scores were the order of the evening as members of the Ventura Division Bridge Club held their annual Open Pairs Championship tournament with 22 players participating.

Mr. and Mrs. Bob Calhoon tied with the team of Bill Higgenbotham and Carl Reinisch for first place. In a tie for third were Mr. and Mrs. Cal Peterson and the team of Carlene Pierce and Laddie Agrelus.

Certified director for the American Contract Bridge League tourney was Jan Withers.

## CREDIT UNION REPORTS DIVIDEND

The board of directors of the Ventura Division Credit Union reports a 5 per cent dividend on shares for the first quarter of 1972.

The Credit Union has offices in the Administration Building open at lunch hours for all personnel. Interested persons should call ext. 420 for further information.

## Harris and Maple Get New Posts

Robert D. Ward, manager of Materiel at the Ventura Division, has appointed Robert W. Harris to the post of manager of Material Planning, Follow-up and Production Scheduling.

In his new position, Mr. Harris will work closely with Sherman C. Maple who was recently named manager of Procurement by Mr. Ward.

Mr. Harris has been with the Ventura Division since 1955. A graduate of the University of Southern California, he was an industrial engineer before moving to his new job.

Mr. Maple came to the Ventura Division two years ago as a purchasing agent. His aerospace

career in procurement and materiel includes eight years at Northrop's Aircraft Division.

Both Mr. Harris and Mr. Maple are World War II veterans. Mr. Harris was in the Navy and Mr. Maple served in the Marine Corps and Merchant Marine.



Mr. Maple



Mr. Harris

## AT MAY 24 MEETING

# Club to Hear Mr. Jones

Thomas V. Jones, president and chairman of the board of Northrop Corporation, will be the special guest speaker at the May 24 meeting of the Ventura Division Management Club.

He is a director of United States Steel, Wells-Fargo Bank, and the Times-Mirror Co. Mr. Jones is a trustee of Cal Tech, Stanford, and the National Security Industrial Assn.

Mr. Jones joined Northrop in 1953 as assistant to the chief engineer and was appointed deputy chief engineer in 1954. In 1956 he was named director of Development Planning, with responsibility for Northrop's long-range plans.

He was elected corporate vice president for Development Planning in 1957 and senior vice president in 1958.

Mr. Jones has been president of Northrop since May of 1959. He has been a member of the board of directors since January 1959, and has been its chairman since April 1963.

## Golfers Return To Ojai Valley

Ventura Division golfers played the Ojai Country Club course in March and will return to the Ojai Valley this month to tackle the Soule Park course on April 29.

Lauren Persons and Jim Young had net 65's to set the pace in March play and win the A and B flights, respectively.

Mark Peterson had a 68 for second in the A Flight and Dave Logan's 70 gave him third. Warren Sparks also shot a 70 for second in the B Flight and Dick Kipp carded 73.12 for third.

Winning the C Flight with a 70 was Dave Buchanan while Andy Tyszkiewicz nudged Bill Mulvihill for second, 73 to 73.72.

Vonnie Shelley won the Ladies Flight with a 79. Zeda Armstrong barely edged Clara Curtis for third, 82.06 to 82.08. Dave Maher and Lauren Persons won closest-to-the-pin honors.

## MULLINS PASSES ENGINEER'S TEST

William M. (Bill) Mullins, a structures engineer at the Ventura Division, has passed his California Professional Engineer's test with a record score of 98 per cent.

Mr. Mullins, in the Advanced Design group at Ventura, was told of his honor in a letter from H. J. Hoerger, program manager, California State Board of Registration for Professional Engineers.

**IS IT NEWS?  
CALL EXT. 1425  
VENTURA**



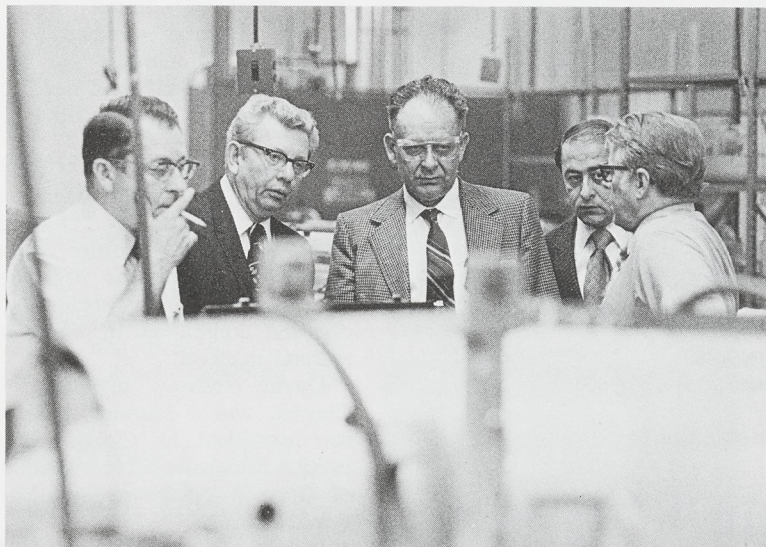
# NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 30, No. 5

May 1972



REVIEWING MQM-74A at Ventura is Alexius Chrun, center, the deputy project coordinator, Aeronautical Targets in the Naval Air Systems Command. With him are Bill Kearney, left, Joe Staley, Ray Lavi, and Dick Warner, right.

## MQM-74A Makes 500th Navy Flight at Point Mugu

Culminating more than three years of test and operational flights at the U.S. Navy's Naval Missile Center at Point Mugu, the 500th launch of a Northrop MQM-74A target was successfully completed last month by a Threat Simulation Department launch crew.

At conclusion of its mission

### SEVEN COMPLETE FORTRAN COURSE

Seven Ventura Division personnel have completed a five-week in-plant course entitled "Basic Fortran IV," conducted by Ivan Blum of the Economics Analysis staff.

Learning the skills necessary for writing basic computer programs were J. O. (Doc) Powell, R. J. (Bob) Cole, Marty Nemeroff, Vlad Basus, Carole Rundgren, Bill Glass and Ron Lischak.

During the 22-hour course, each wrote seven programs, two of which were successfully run on the IBM 370/165 computer at Northrop Data Processing.

"These techniques are not simple," Mr. Blum explained, noting that only seven of the original 25 in the class qualified for completion. Mr. Blum conducts the classes biannually.

the target was recovered from the Pacific and returned to the Threat Simulation Department where it was refurbished and readied for another flight.

The 500th launch is a major milestone in use of the target at Point Mugu, one of the busiest MQM-74A customers.

The first flight took place in 1968. Full scale test flights were initiated in 1969 and the targets have subsequently been flown at Point Mugu for many purposes in weapons evaluation and testing.

### SERVICE AWARDS

Les Myers, an engineer in the Environmental Lab, headed the list of Ventura Division service pin recipients this month as he received a 20-year emblem from acting General Manager John Evans.

Maydeen Watt and Bill Bjerke received 15-year pins and D. J. Manley, Jean Grow and Don Beattie were given pins symbolic of their 10 years with Northrop.

Receiving five-year pins in May are Joan Parde, Tom Johnson, Bob Pepper, John Moore, Dick Hobeck, Jackie Carpenter and Bob Wood.

## Ventura Chutes Again Return Apollo Crew

Apollo 16 returned from the lunar highlands and splashed down April 27 under the protective canopies of the Northrop-produced Apollo Earth Landing System.

Personnel at the Ventura Division joined television viewers worldwide in seeing the full system deployment in "the best landing coverage yet," in the words of one Venturan.

Watching the 26th consecutive exercise of a Northrop recovery system was a man in Bristol, England, who later wrote the division.

"I would first like to say how beautiful a sight Casper was, coming down on its drogues, when the television showed it yesterday," wrote Trevor Williams. "Then, seeing the main chutes pulled out, then unreefed, was really an incredible sight."

Formal congratulations also came to Ventura personnel in the

form of a wire from G. W. Jeffs, vice president and program manager of CSM Programs at North American Rockwell's Space Division in Downey.

"For the fifth time in four years man has successfully ventured to the lunar surface and returned safely," he wrote Welko E. Gasich, division general manager. "Your firm and your personnel have contributed significantly to these achievements and I again want to express my personal congratulations and thanks for your efforts."

It was also reported that all three of the main chutes were recovered from the Pacific after successfully landing astronauts Charles Duke, John Young and Thomas Mattingly. There is a possibility that one of the chutes may be loaned to the Ventura Division for a brief period.

One more Apollo mission remains—Apollo 17 in December.

## Cost-Consciousness Brings Cash Awards for Money Saving Ideas

Cost-consciousness remains in the forefront of the market place and many Ventura personnel are keeping cost-savings at the top of their idea lists.

Steve Wrubel, who assembles the Mk 30 underwater target, came up with three ideas to reduce costs in that program. Each idea suggested a new tool. Mr. Wrubel received \$59 for his ideas.

Two men in 747 Shipping, Eli Salas and Dan Mills, came up with a plan to change the shipping containers so they would be more efficient. Mr. Salas and Mr. Mills each got \$30 for the suggestion.

Russ Opfer received \$48 for an idea which reduces re-work

and Bob Sperry got two awards totaling \$46 for ideas which cut time and costs on the MQM-74A.

Dean Holman was given three \$10 awards for separate cost-cutters.

Reducing paperwork was the successful goal of Delio Piantino. His suggestions earned him \$29. The Boeing 747 program offered an incentive for Paul Barbakow and he got \$24 for his idea.

Receiving \$10 each for still more cost-saving ideas were Ed Zurawski, Dan Beltran, Bert Stohmann, Maria Garcia, T. R. Anderson, Rose Harrington, Francis Baker, Linda Bennett and Rick Tam.

### SAVINGS BOND CAMPAIGN UNDER WAY

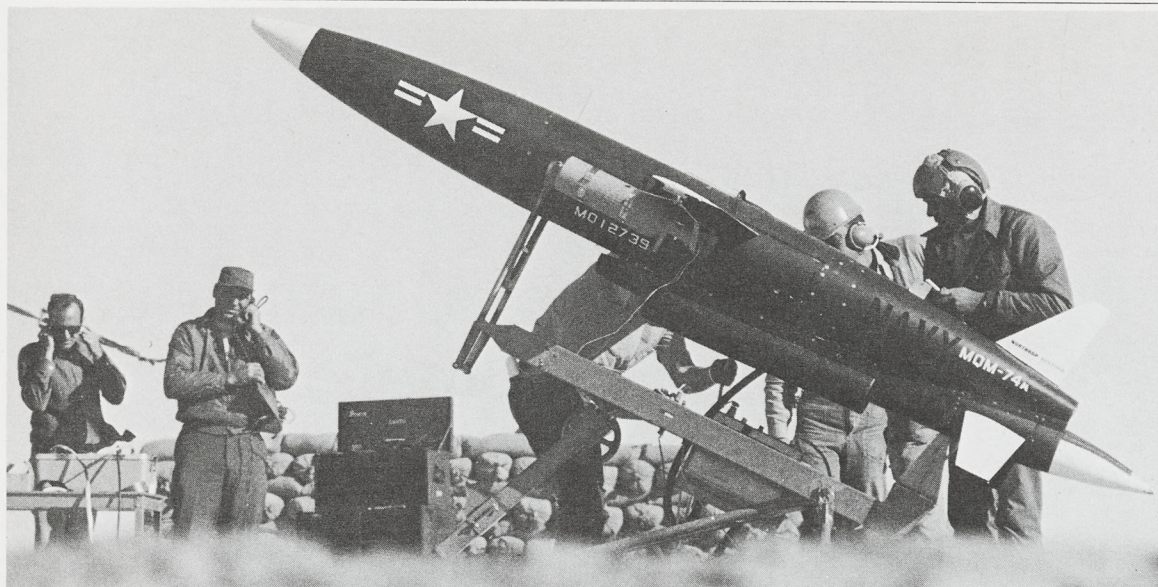
"Nearly three-quarters of all our personnel are participating in the payroll deduction plan with U.S. Savings Bonds. We hope to increase that considerably."

With these words, Harry Par-

ker, manager of Quality Assurance and head of this year's U.S. Savings Bond campaign, kicked off the month-long drive which will end June 6.

Assisting Mr. Parker in help-  
(See BONDS, page 6)





**NORTHROP MQM-74A READY FOR LAUNCH**  
U.S. Navy team makes final preparations prior to firing Ventura-built target.

## WORLD LEADER

# Nineteen Nations Use Ventura Targets

Although probably best-known for its design and production of the Apollo Earth Landing (parachute) System, Northrop's Ventura Division is the world's leading producer of remotely-controlled aerial targets — more than 65,000 manufactured since 1938.

Northrop targets, which are recoverable and re-usable, simulate full-size aircraft to weapons systems and anti-aircraft teams. Now in service in 19 nations, the Northrop targets have proven reliable and cost-effective in keeping gun and missile crews at combat readiness.

The latest version, the turbojet propelled MQM-74A or Chukar, as it is known internationally, has proven extremely successful in operations at the NATO Missile Firing Installation (NAMFI) on Crete. NAMFI users are Greece, Germany, Belgium, The Netherlands and the U.S.

Attaining maximum speed at sea level of 400 knots, the Chukar

can maintain an airspeed of 425 knots at 20,000 feet for 143 nautical miles. Performance ceiling is 40,000 feet.

The Chukar is propelled by a Williams Research-built WR-24-6 open-cycle turbojet engine rated at 121 h.p. at 60,000 revolutions per minute. JATO bottles give the Chukar added boost at launch.

Simulating the attack modes of missiles or aircraft, the Chukar is a formidable foe. For example, to a gun crew at 400 yards the Chukar appears as a supersonic fighter at 1,000 yards.

Various augmentation systems make the Chukar compatible to many weapons systems. Crews using 40-mm, 20-mm, and 0.50-in. guns fire at the target, as do Hawk, Redeye, Chaparral or Nike-Hercules missile teams.

Radar and infrared air-to-air missiles such as the Sparrow and Sidewinder can also be used against this Northrop target.

Armed forces using Northrop targets are able to use ground support equipment which in many cases is interchangeable between the advanced Chukar and KD2R-5 Basic Training Target. Such GSE includes remote control systems, tracking systems, and related support equipment.

Drawing on more than 30 years of experience, Ventura engineers are now at work on the next generation, known as Remotely Piloted Vehicle (RPV). Military planners envision a host of different uses for RPV's.

## Northrop Invests in Chestel, Inc.

Northrop has acquired a minority interest in Chestel, Inc., a recently formed company that designs an attachment for telephones to eliminate the need for switchboards in systems up to 50 lines.

Northrop's interest in Chestel is under the management of Northrop Technology Development, Northrop's venture capital subsidiary which was organized to invest in small, technology-oriented companies in the commercial markets.

David Joslow, president of Chestel, was a founder and former president of Chester Electronics Laboratories, a subsidiary of General Telephone and Electronics Corp.

In taking a minority position in Chestel, Northrop said it had agreed under certain conditions to provide additional financing and thus acquire a larger minority interest in the company.

## RAY TOP LENSMAN

Lauren Ray, Aircraft Division technical publications production specialist, has won top prize—a Savings Bond — in the annual Winter Photo Day competition staged by the Palm Springs Aerial Tramway.

Mr. Ray's winning entry was a photo of Cindy Blake, an Anaheim model and dancer, perched atop a rock outcropping.

## WW II REUNIONS SET FOR THIS SUMMER

Eligible Northrop employees are invited to attend reunions of three World War II Air Force groups this summer.

The first is the 30th anniversary get-together in Las Vegas of former members of the Air Force Transport Command on the weekend of May 19-21. The ATC pioneered many routes and procedures for trans-ocean flying that set the pattern for expansion of commercial transport aviation.

The second is the Hump Pilots Assn., which is holding its 27th reunion at the Riviera Country

Club, Palm Springs, Aug. 17-20. The Hump Pilots include those who flew supplies from India to China.

The third reunion is the first staged by the newly formed P-40 "Warhawk" Pilots Assn. It will be held at the Imperial House North in Dayton, Ohio, Sept. 15-17. Northrop's John Alison is the organization's secretary. The "Warhawk" was the first American World War II fighter to engage in combat in every theater of war throughout the world.



**THE WELCOME SIGN** is out again for Northrop families at Disneyland with Northrop Night slated for May 20. Tickets for the event are still available through all NRC outlets at all divisions and facilities. The \$4 tab per person includes parking, admission, and unlimited use of all attractions except shooting galleries. The park will be open to Northrop families exclusively from 8:30 p.m. to 1:30 a.m.



## Northrop's Order Backlog Increases During Quarter

Northrop's order backlog at March 31, 1972 had increased to \$613,200,000 compared to \$477,916,000 on the same date last year, according to the company's quarterly report to shareholders.

The report, which covered the first three months of 1972, reported net sales at \$113,306,000 compared to \$143,638,000 for the corresponding period in 1971. Total sales figures include those of Wilcox Electric and the George A. Fuller Company, recent acquisitions of Northrop.

The drop in sales is attributed to lower deliveries of 747 fuselage assemblies, declining F-5

sales, and phase-out of the T-38 trainer.

Although primary earnings per share were 52 cents compared with 56 cents for the same period a year ago, the ratio of earnings to sales for this three-months period was 2.1 per cent compared with 1.9 per cent a year earlier.

The backlog figures do not include the \$39 million contract just received from the U.S. Air Force for a Lightweight Fighter.

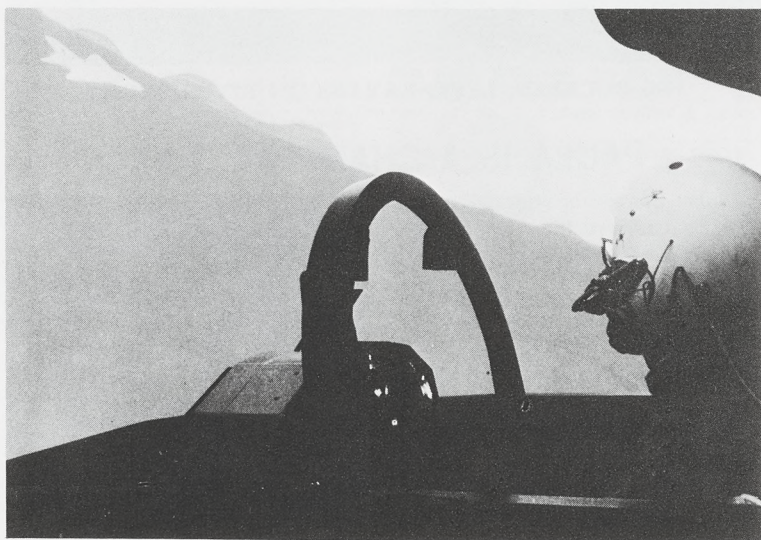


**JIM NORMAN**, Environmental Systems, right, and **John St. John**, supervisor of Engineering R&D, Service Research Center, Ford Motor Co., check out the Northrop-Olson Labs, Olson-Horiba, display of vehicle emission test equipment at the recent Society of Automotive Engineers exhibition in Detroit. Both Mr. Norman and Mr. St. John were panelists on the important SAE seminar, "Diagnostic and Maintenance Effects on Environmental Control."

## Electronics Div. Expands Medical Data Systems

Northrop Corporation continued its expansion into the medical data systems market with acquisition, for cash, of the assets of Predictive Medical Systems Inc., a wholly owned subsidiary of Pacific Measurements, Inc., Palo Alto, Calif.

In making the announcement, Ross F. Miller, vice president and general manager of Northrop's Electronics Division, noted that the assets and personnel of Predictive Medical Systems will be merged with those of Berkeley Scientific Laboratories which Northrop acquired last month from Tracor, Inc.



**THIS IS A PILOT'S-EYE VIEW** of target inside Northrop's new Large Amplitude Flight Simulator/Wide Angle Visual System. The simulator cockpit is located in the exact center of the projection screen to eliminate distortion. Target image projector subsystem provides a 90 to 1 variation in image size for target range information, and three directions—pitch, roll and yaw—of target model rotation. Pilot horizontal field of view in the simulator was recently increased to 210 degrees.

The simulator is built by Northrop's Aircraft Division.

## News From Around The Company



**THE NEW RURAL Subscriber Radio Telephone** developed by Hallicrafters will extend telephone service.

## Hallicrafters Develops New Rural Telephone System

Hallicrafters Co., a Northrop subsidiary, has developed an economical solution to extending rural telephone service in domestic and international markets by utilizing many advantages of VHF radio.

The new Rural Subscriber Radio Telephone development consists of two systems. The RTV-51 is capable of connecting up to 10 subscribers on a party line basis, except that the telephone line is extended by VHF radio up to a distance of 30 miles from the central telephone office.

The second system, the TRV-51ML, connects from one to 20

subscribers on a private line basis over a single pair of VHF radio frequencies.

The two systems provide for the extension of telephone service to locations that are distant from the central telephone office when it is uneconomical to connect by open wire, underground cable or high density radio.

The systems, which meet or exceed existing transmission objectives for subscriber service, are completely compatible with any existing automatic dial or manual exchange. They require low initial capital.

## Robert Shank Appointed President Of Northrop's Wilcox Electric, Inc.

Robert J. Shank has been appointed president and general manager of Wilcox Electric, Inc., Kansas City, Missouri, a subsidiary of Northrop Corporation, according to an announcement by Thomas V. Jones, Northrop president.

Wilcox Electric, Inc., specializes in the manufacture and marketing of electronic navigation and communications equipment for commercial aircraft, general aviation, and ground-based electronic navigation and commercial equipment lines for airport installation.

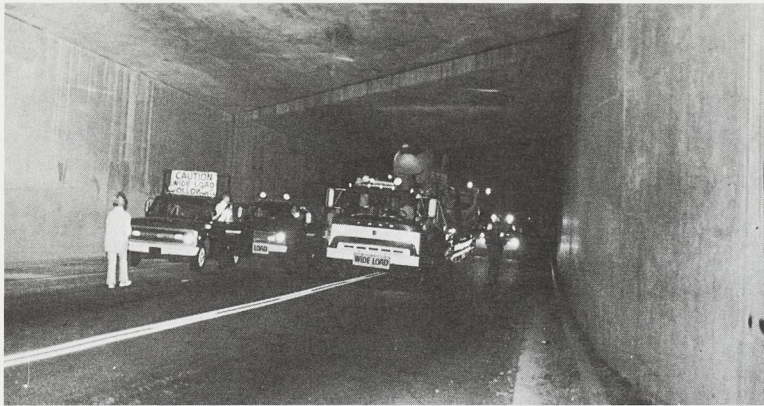
Organizationally, Mr. Shank will report to Harrison Van Aken, vice president of Northrop and

president of Hallicrafters Co., also a Northrop subsidiary.

Mr. Shank was formerly a vice president for plans and business development for AIL Inc., a division of Cutler-Hammer. He has had a long and successful career in the aviation field, and has received international recognition for his contributions to the development and acceptance of Microwave Landing Systems.

Mr. Shank has held key management positions with Hughes Aircraft Company as vice president, engineering; president of American Systems Inc. of California; and as associate administrator of development of the Federal Aviation Administration.





MISS BLAIR, LEFT, CHECKS TUNNEL CLEARANCE

## CAN DRIVE 'EM TOO

### Miss Blair Directs Trucks

Airplanes can't always fly and when they join cars on the road the exacting job of moving them through traffic is handled at Northrop by a petite blonde woman who weighs less than the big double tires on the heavy trucks she bosses.

She is Maybelle Blair, manager of Highway Transportation for Northrop's Aircraft Division. Her latest job was responsibility for trucking the Northrop A-9A prototype close air support aircraft from its factory in Hawthorne to Edwards Air Force Base for initial flight tests.

The A-9A has a length of 53.5 feet, wingspan of 58 feet and a height of 17 feet. The wings were removed and the fuselage was carried in one trip and the wings in another.

To plan the transfer Miss Blair had to map the route, measure all underpasses and tunnels for clearance of the 17-foot tail section, check road curves and bridges, to insure that the big load could pass.

In addition she had to arrange road permits from Los Angeles City, Los Angeles County, cities of Glendale, Burbank and San

Fernando. The trip began at midnight in order to avoid jamming traffic.

The 130-mile trip took exactly six-and-a-half hours. Miss Blair accompanied the truck, at times getting out and walking ahead to give signals as the heavy load inched through narrow tunnels.

While admitting that moving an aircraft over a highway is exacting work, Miss Blair said it was not particularly difficult.

"It is just a matter of everyone working together," she said. "Art Trowbridge of Transportability Design, made a cradle that fitted perfectly, our loaders, under the supervision of John Champion, dropped the plane in smoothly and then our drivers drove as if they had a cargo of eggs."

Miss Blair began at Northrop as a part time helper. She took her first permanent job in 1945, but dropped out for two years to play second base with the Chicago Cardinals, a professional girls' baseball team.

Her first job at Northrop was pedaling a bicycle to deliver mail. Then she graduated to driving a car and finally became a truck dispatcher.

At that time she decided that if she expected 50 male truck drivers to respect her she had to show them she could do anything with a truck that they could. She learned to drive the biggest trailer rig and then passed a state examination for a heavy equipment operators driver's license.

"I've been fortunate in the type of people I have been privileged to work with," she said. "This includes not only all our crews, but also John McNamara, our manager of Transportation, and especially Norman Girard of the Los Angeles city government, who was so helpful in getting us street clearances and then went along on the trip to give us a hand."



MISS BLAIR and truck driver Wayne Barnett.

## Buckley Builds Kayaks for Boy Scouts' Summer Fun

For real summer fun, take a tip from the Eskimos. At least that's what Larry Buckley advises.

Mr. Buckley, who is with the Electro-Mechanical Division's Quality Control, builds and paddles kayaks, Eskimo-type boats.

He got into the Eskimo-boat building in 1956 as part of his work with the Norwalk Boy Scout Troop 549.

"We picked kayaks over canoes because the Eskimo boat is unsinkable," he recalled. "We build them with thin pine stringers which are screwed to supports. Then canvas is stretched over this frame, sewn and doped with lacquer which causes the canvas to stretch tight."

The only change he makes from the original Eskimo design is to enlarge the cockpit. "This is done so that if the boat turns over, the rider can get out."

The result is a light boat that can never sink, he says. "Often on long trips in the hot summer we fill them with water and float

along submerged just under the surface of the river to keep cool."

The first kayak trip was such a success that Mr. Buckley made copies of the plans which he made available to other scout troops. The number of boats grew and by the next year there were enough to make a kayak trip down the Colorado River.

### River Trip

The highlight, as he recalls, was a 1959 trip down the Sacramento River from Redding to Sacramento.

"We had 110 kayaks coming down the river at the same time," he recalls. "There were boats as far as you could see. Each kayak holds only one occupant. But since they are so safe and each paddler is required to wear a life jacket, we were able to float boys as young as 11 years old."

Total cost is about \$11 per boat. He still has some copies of the plans which Northrop employees can have if they'd like to try kayaking.



MR. BUCKLEY, LEFT; KAYAKS ON RIVER, RIGHT

## PAULA IS A CHAMP AT NINE

Paula Saavedra, daughter of Shari Saavedra of the Aircraft Division is a basketball champion at nine years old.

Paula, who plays guard mostly, is a member of the 8-10 girls basketball team that won first place in the Lakewood Parks and Recreation Association tournament.

To win the city championship Paula's team had to come from behind in the last of their third playoff game to tie in the fourth quarter and then win in the third overtime.

Although the smallest member of the team, Paula is an expert at stealing the ball from the opposing side.



PAULA SAAVEDRA



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Triumph**, 1968 Spitfire, Mark III, spoke whls., 21,000 mi., new clutch, \$850. 213-672-8750.

**Pontiac Tempest**, new tires, \$600. 213-676-2718.

**Lincoln Continental**, 1963, 58,000 mi., \$500. 213-323-9003.

**Volkswagen Camper**, 1968, w/pop-top & Westphalia int., extras, \$2,100. 805-482-5451.

**Station Wagon**, 1962 Chev., 9-pass., V-8, new motor, \$300. 714-528-5461.

**Truck**, 1967 Chev., ¾-ton, w/teardrop camper, 25,524 act. mi., a/c, p/s, p/b, V-8 eng., will sell camper sep., \$4,500. 213-835-7668.

**T-Bird**, 1959, \$150. 213-542-5260.

**Datsun 510**, 1971, 2-dr., 4-spd., mags, tach., radio, pwr. d/brakes, 7,300 mi. \$1,895. 213-374-6727.

**Oldsmobile**, 1966 Cutlass convt., 50,000 mi., \$1,200. 213-320-8085.

**Oldsmobile**, 1965 Delta 88, 4-dr. h/top, p/b, p/s, tilt steering whl., a/c, AM radio, \$695. 213-325-8752.

**Volkswagen Camper**, 1971, pop-up roof, tent, \$3,300. 213-374-8201.

**Volkswagen**, 1969 fastback, \$1,300. 213-789-5791.

**Volkswagen bus**, 1964, \$850. 213-842-8724.

**MGTF**, 1954, rebilt. motor, \$1,900. 213-288-3432.

**Dune Buggy**, VW, street legal, top, toe bar, \$795. 213-320-7126.

**Volkswagen**, 1968, r/h, \$875. 213-542-3459.

**Station Wagon**, 1964 Malibu, auto. trans., p/s, 283 V-8, \$400. 213-378-0501.

**Pickup Truck**, 1965 ¾-ton Ford, auto. trans., a/c, 68,000 mi., \$1,195. 213-673-2843.

**Dune Buggy**, 1970, 40 h.p. VW, many extras, \$1,200. 213-644-0866.

**Cadillac**, 1967 DeVille convt., min. bid \$1,195, Credit Union ext. 1117.

**Buick**, 1969 Le Sabre, 4-dr. h/top, fact. a/c, r/h, p/s, p/b, \$2,000. 213-530-1212.

**Volkswagen Camper**, 1967, German unit, pop-up roof, 8-ply tires, lug. rack, \$1,995. 213-675-4318.

## Miscellaneous For Sale

**Ring**, diamond, solitaire, approx. ½ carat, \$250. 213-325-5859.

**Motorcycle**, 1969 Suzuki, 250 cc, dirt & st. equip., \$450. 213-671-9067, 213-673-0306.

**House**, corner, 1½ yrs. old, 2-story, 4-bdrm., 2 baths, cathedral ceiling, f/place, f.a. heat, bltns, cpts., dps., Cerritos, \$32,500. 213-860-3022.

**Coffee Pot**, 42 cup, avocado, West Bend elec., \$8. 213-679-5506.

**Outboard Motor**, 5 h.p. Johnson, \$65. 213-675-2005.

**Truck Tires**, 2 7.50x16 8-ply rated, mounted on 8 lug split rim whls., fits any ¾-ton Ford or Dodge, \$25 ea. 213-371-2948.

**Fishing Tackle**, salt & f/water reels, rods & assort. tackle, \$50. 213-755-6118.

**Knitting Machine**, Princess, 48" wide, \$40. 213-373-3386.

**Mirror**, 28" x 48", antique white, scroll design, \$25. 213-326-0124.

**Movie Projector**, Ricoh, 8-mm, self-threading, fwd., reverse, self-contained carrying case, \$50. 213-851-1376.

**Trailer**, 1968 Cardinal, Low Line, \$900. 213-675-3541.

**Motorcycle**, 1967 Bonneville Triumph, rebilt., \$750. 213-325-2613.

**Typewriter**, IBM elec., \$145. 213-673-5614.

**Cassette**, car stereo player, recorder, 8 tapes, \$85. 213-292-9082.

**Refrigerator-Freezer**, 14 cu. ft. Philco Ford Frost Free, 14 mos. old, \$250. 213-641-6322.

**Motorcycle**, Kawasaki 120 TR, \$275. 213-372-3827.

**Rugs**, 7 Navajo, from 24x29" to 76x130", \$20-\$400. 213-374-6137.

**Refrigerator**, Frigidaire, 16 cu. ft., \$45. 213-756-3669.

**House**, Gardena-Hollypark, 3-bdrm., 2 baths, serv. porch, bltns, covered patio, att. 2-car gar., \$30,900. 213-323-8213.

**Piano**, small upright, walnut, \$175. 714-528-6914.

## Miscellaneous For Sale

**Trailer**, 16' Fire Ball, self-contained, elec. bks., sleeps 7, \$1,150. 213-699-8173.

**Water Softener**, large, \$50. Box 501.

**Bed**, maple, twin, \$20. 213-675-7316.

**Band Saw**, Power King, 12" throat, ¼ h.p. elec. motor, \$100. 213-833-7903.

**Boat**, 11' glass o/wood, \$100. 213-644-2009.

**Formal**, burgundy bodice w/pink chiffon, worn once, size 11, \$35. 213-860-8266.

**Surfboard**, 7' Rick, \$25. 213-374-8608.

**Dressers**, 2 white provincial, \$125. 213-326-3136.

**Tent**, 9x16, \$50. 714-524-9688.

**Shotgun**, Remington 1100, auto. 12 ga., shot 18 times, \$100. 213-644-7941.

**Acreage**, 5 acres, 10 miles w. of new Hilton Hotel in Victorville, 10% dn., \$13,500. 213-430-1952.

**Motorcycle Trailer**, 3-bike cap., hvy. duty, spare whl. & tire, \$150. 213-323-2358.

**Surfboard**, Bing Foil, 7', \$50. 213-378-2790.

**Crib**, high chair, playpen, porta crib, \$50 or sell sep. 213-377-5003.

**Dryer**, Kenmore, \$20. 213-328-3438.

**Dining Table**, walnut, 4 chairs, brown tweed seats, \$35. 213-635-7942.

**Windows**, 8 wooden, 28" x 36", \$2 ea. 213-379-4517.

**Utility Trailer**, Sears, 4' x 5', metal top, whl. & tire, \$200. 213-542-5691.

**Trailer Hitch**, Volkswagen, bolt-on type, \$25. 714-525-8327.

**Rotisserie & broiler**, & shish kebab attach., Farberware, \$53. 213-324-4475.

**Surfboard**, 7'4", light wt., Creative Design, no dents, \$70. 213-328-6662.

**Acreage**, 2½ acres, Antelope Valley, east side, water & elec. to prop. corner, \$400 dn., \$45 mo., 7%, \$4,950. 213-378-1026.

**Divan**, 6', & matching chair, Lawson style, med. green nylon, \$100. 213-670-2564.

**Stove**, O'Keefe & Merritt, 4 burners, \$80. 213-679-6395.

**Boat**, 16' o/board, 35 h.p. Evinrude, \$495. 213-379-5592.

**Entry Door**, custom, 36" x 80", \$48. 213-674-3558.

**Ring**, Masonic Consistory w/diamond, \$125. 213-530-0765.

**Engine**, 396 C.I.D. Lincoln, 100 mi. since complete o/haul, access. & trans. avail., \$400. 213-676-3095.

**Dog Kennel**, extra lge., suitable for air freight, used once, \$25. 714-832-5050.

**Motorcycle**, 1969 CL 125 Honda, low mileage, \$225. 213-377-5897.

**Camera**, Polaroid mod. 210, flash attach., \$30. 213-675-7915.

**Lawnmower**, Black & Decker, 18", rotary, grass catcher, 50' cord, used once, \$50. 213-323-6840.

**Mobile Home**, 47' x 8', w/w cpts., new refrigerator, metal awning, \$1,795. 213-675-6585.

**Motorcycle**, 1970 Honda Trail 90, street equipped, \$300. 213-378-4422.

**Bed**, single, mattresses, box springs & frame, bookcase h/board, \$35. 805-498-2787.

**Pool**, 12' dia. x 3' deep, w/filter & ladder, \$60. 213-325-3675.

**House**, cust. blt. Mexican style, 4-bdrm., 3-bath, copper plumbing, 2,500 sq. ft., Catalina view, elec. bltns, 3-car gar., P. V. Pen., \$61,900. 213-377-5055.

**Clothes Poles**, 2 lge., steel, \$5. 213-534-2290.

**Boat**, 26' Trojan Express cruiser, sleeps 4, galley, o/riggers, bait tank & pump, 10 hrs. since major eng. o/haul, \$3,750. 714-894-5425.

**Desk**, steel w/wood grain nevermar top, 6-drwr., \$60. 213-892-7972.

**Bicycle**, Schwinn, ladies 3-spd., \$49. 714-892-1945.

**Camera**, Polaroid, color, M-60, used 3 times, access., \$50. 213-676-4492.

**End Tables**, Danish walnut, \$15 ea. 213-541-3000.

**Yard Lounges**, 2 redwood, \$6.50 ea. 213-376-4831.

**Gieger Counter**, Hoffman, mod. 216-1, 4 digit scaler read out, 2 min. timer, A & B batt. check, \$150. 213-676-6390.

**Slide Projector**, 35 mm, TDC Bell & Howell w/45 30-slide trays, \$30. 213-374-4780.

**Guitar**, elec., hollow body, 6-string, 2 pick-ups, \$75. 213-325-0448.

**Sewing Machine**, portable, Sew Rite, \$35. 213-677-7421.

**Mini Bike**, Taco 99, 5 h.p., \$60. 714-528-1180.

## Miscellaneous For Sale

**Couch**, 8', \$30. 213-423-1363.

**Stove**, Kenmore Deluxe, tabletop mod., gas, dble. oven, 1 elec., \$100. 213-676-5404.

**Crib**, new mattress, spring, \$15. 213-644-3742.

**Revolver**, dble. act., Colt offc. mod., match 22, adjust. rear sights, case, \$95. 213-370-7904.

**Bible**, lge. home type, King James version, never used, \$50. 213-675-5755.

**Mini Bike**, Taco, new motor just installed, \$70. 213-377-1074.

**Bumper**, front, Karmann Ghia, fits any yr. up to '71, \$25. 213-329-2893.

**Refrigerator**, Frigidaire, \$45. 213-756-3669.

**Pool Equipment**, Diatomaceous Earth Filter for up to 18' dia. Doughboy, ¼ h.p., \$30, other items. 213-860-3450.

**Motorcycle**, 1967 Minarelli Testi, 50 cc scrambler, new 5-port head, \$99.50. 213-377-2552.

**Rifle**, .270 Remington mod. 700 ADL, Weaver K4 scope, 3 boxes ammo, case, \$125. 714-527-3554.

**Acreage**, 40 acres in Latigo Canyon, Malibu, old house, 3-car gar., water springs, drilled well, water tanks, access roads, \$3,500 acre. 213-457-9600.

**Motorcycle**, Bultaco Lobito, 1968, 100 cc '68, completely rebilt., many extras, \$260. 213-322-1974.

**House**, 3-bdrm., 1¼ bath, family rm., f/place, \$33,000. 213-327-2279.

**Cemetery Lot**, dble. interment, Inglewood Pk. Cemetery, \$995. 801-394-5657 or Box 502.

**Bicycle**, 10-spd., \$90. 213-672-2338.

**Acreage**, 4 acres, near Bend, Ore., \$6,200. 714-838-1470.

**Cemetery Lots**, 2 single, Avalon Plot, Inglewood Pk. Cemetery, \$300 ea. Box 503 or 916-459-3333.

**House Trailer**, 15', sleeps 4, ice box, propane stove, 12 V., 110 V. & propane lights, \$595. 213-927-0578.

**Stove**, self-clean, elec., \$150, other items, various prices. 213-863-7547.

**Lot**, Lake Havasu, R1, lake view, \$4,875. 213-377-9842.

## Wanted to Buy

**Exercycle**, or similar. 213-372-7270.

**Camera**, 35 mm, & enlarger. 213-375-8460.

**Dishwasher**, portable, & kitchen stove, preferably gas, in good condition. 213-478-5784.

**Camper Shell**, for 8' Chev. pickup, reasonable price. 213-291-0025.

**Filter**, capable of handling 1,000-1,500 gallons of water, & wheelbarrow. 213-833-6045.

**Dune Buggy**, in good condition, willing to do some work, reasonably priced. 213-679-8095.

**Go-Kart**, in operable condition, prefer small horse power. 213-831-6480.

## Free (To Be Given Away)

**Pups**, cockapoo, 4 males, 2 females, various colors, 6 wks. old. 805-497-2598.

**Kittens**. 213-370-6431.

**Cat**, frost point Siamese, adult male, neutered. 714-322-2578.

## Rentals Offered

**Cabin**, Lake Arrowhead, family only, \$55 w/end, \$125 wk. 213-831-1745.

**Apt**, 2-bdrm., unfurn., sub. parking, pool, bltns, custom cpts. & dps., 10 min. to Northrop, Lawndale, \$165. 213-670-6084.

**Cottage**, Ocean Bch., near Mission Bay, make reservations now, \$80 wk. 714-826-2007.

**Cabin**, Green Valley Lake, \$65 wk. 213-320-2002.

**Cabin**, Lake Arrowhead, no. shore, 200 feet from lake, pvt. dock, \$125 1 wk., \$200 2 wks. 213-375-2255.

**Apt**, 2-bdrm., 1½ bath, cpt., dps., all elec., adults, \$185 mo. 213-372-7862.

**Cabin**, Big Bear City, 2-bdrm., 1-bath, \$40. 213-320-6486.

**Condominium**, 1-bdrm., in Mammoth, sleeps 5, complete kit. & supplies, pool, rec. rm. \$30 wk/end, \$70 wk. 213-785-1405.

**House**, Bass Lake, \$150 wk. 213-374-3702.

**Cabin**, Lake Gregory/Crestline, walk to lake, sleeps 6, furn., \$30 wk/end, \$75 wk. 213-545-6313.

**Mountain Home**, Big Bear City, 2-bdrm., 1 bath, f/place, furn. incl. linens, \$35 wk/end, \$100 wk. 213-823-1788.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 wk/end. 213-326-7232.

**Vacation Cabins**, Idyllwild, 1 & 2 bdrm., stream, patio, f/place, \$30-\$40wk/end, \$70-\$90 wk. 213-868-8040.

# Scout-O-Rama Set for June 3

The 1972 Scout-O-Rama will be held Saturday, June 3, from 11:30 a.m. to 7:30 p.m. at three locations: Loyola High School, 1901 Venice Blvd., Los Angeles; El Camino Jr. College, 16007 Crenshaw Blvd., El Camino; Cerritos Jr. College, 11110 E. Alondra Blvd., Norwalk.

Emphasis is on "Scouting American Style," and tickets are available from any Boy Scout or Cub Scout at \$1 each.

# Banura Given School Honors

George A. Banura, son of Aircraft Division's Arturo Banura, has graduated magna cum laude from Northrop Institute of Technology.

In earning his bachelor of science degree, George Banura was a fall listee in "Who's Who Among Students in American Colleges and Universities," recipient of the Herbert W. Hartley Scholarship, and a ranked member of the Dean's List every quarter.

## Rentals Offered

**Cabin**, nr. Arrowhead & Running Springs, sleeps 4-5, \$35 wk/end, \$90 wk. 213-370-7105.

**Camper**, 11' Galaxy, 1971 Ford pickup, sleeps 6, \$100 wk. & .05 mi. 714-544-0730.

**Apt**, unfurnished, 2-bdrm., new cpts. & dps., bltns, near Long Beach Fwy., \$149.50. 213-426-4060.

**Motor Home**, 1971 Pace Arrow, 20', sleeps 6, a/c, self-contained, fully equipped, insurance, \$150 wk., \$50 wk/end. 714-846-1858.

**Condominium**, 2-bdrm., Palm Springs area, furn., heated pool, \$100 wk., \$60 wk/end. 213-327-8994.

**Apt**, 1-bdrm., unfurn., Redondo King Harbor, 1 month's free rent, cpts., dps., gar. w/ storage cabinets, \$150. 213-376-6226.

**Cabins**, Lake Gregory & Crestline, reserve early, sleeps 6, \$65 wk. 213-821-8150.

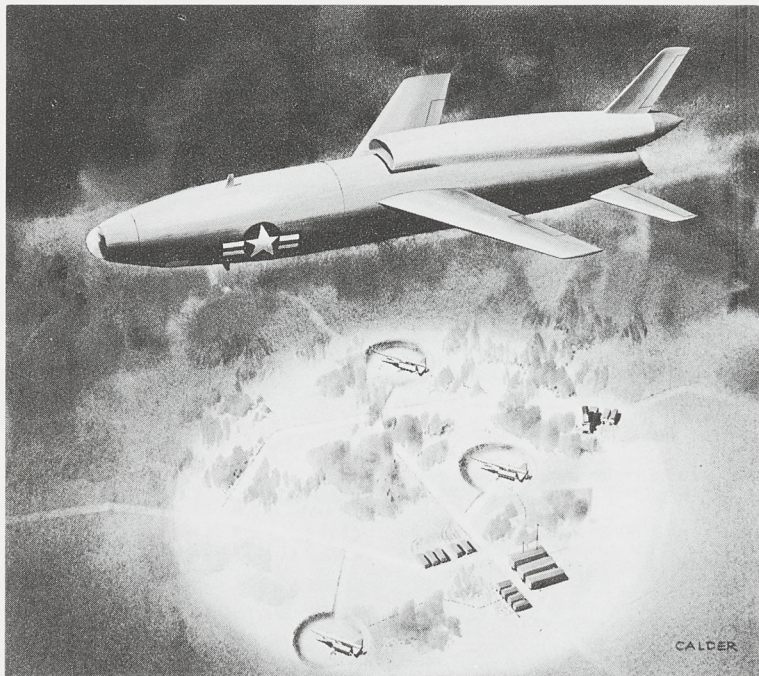
## Rentals Wanted

**House**, 3-bdrm., Torrance area, no pets, \$275 mo. 213-378-7208.

## Personals

Thank you for sharing our sorrow. Your thoughtfulness, prayers, flowers & cards were appreciated. THE FAMILY OF FRANK COX.





**PROPOSED RECON RPV** as drawn by Ventura artist Jack Calder, this surveillance vehicle, relaying real-time graphic information on the missile site below, is one of four such vehicles proposed by Ventura Division for the U.S. Air Force's remotely piloted vehicle program.

### CUPID FINDS NORTHROP GOOD PLACE TO WORK

"Northrop Is A Good Place To Work" is a familiar slogan. But at least four Venturans have recently found that Northrop is a good place to find a mate.

Estella Albillar, of the Parabol, met John Brazel, of the Maintenance staff, at the Ventura Division. Jan. 29 they were married in Las Vegas. She has worked with Northrop five years and he for 14

years.

Tanet Palmer, secretary to Frank Tipton, is a five-year employee who met Gerry Koopman, a 15-year Venturan with Field Engineering and Training, in normal work routines. They were united in marriage April 30 in Santa Barbara.

All of their co-workers extend best wishes to the Brazels and the Koopmans.

### KNOW YOUR NRC

### Bridge Club Meets Weekdays at Noon

Playing duplicate bridge each weekday at noontime in one corner of the cafeteria are some 25 Venturans who are members of the Ventura Division Bridge Club.



Mrs. Reinisch

is vice-commissioner, Tanet Koop-

Betty Reinisch, of Northrop Data Processing, is commissioner of this club which also has two to three special evening tournaments during the year.

Ralph Reeves

### INSTRUCTS

Rex Fairless, manager of Industrial Relations and Administration has concluded instruction of a course in "Collective Bargaining," for UCSB's Extension Program at Vandenberg AFB.

man is secretary-treasurer and Bob Tracy is the director.

Venturans who have lunch from noon to 12:42 and would like to participate should call Mrs. Reinisch at ext. 1214.

### BOND DRIVE

(Continued from page 1)

ing to enroll personnel for the minimum 50 cents per week deduction are nine area boosters.

Details of this conversion plan or related U.S. Savings Bonds programs may be obtained from the following area boosters:

Engineering — Gary Bucsis and Dutch Youngers; Production Operations — Barbara Richards, Judy Eddy, and Rae Leas; Quality Assurance — John Wolcott; Product Development and Program offices — Tanet Koopman; Industrial Relations — Frank Lund; and Financial Management—Willie Zachery.

## Seventeen Attend Second Annual Business Forum

As part of its ongoing relationship with California Lutheran College, the Ventura Division was represented by 17 men at the school's recent Second Annual Business Management Forum.

Meeting in small seminars with students and then hearing a keynote speech by Paul Sullivan, executive vice president of the Bank of America, were:

Ivan Blum, George Bostater, Clark DeSpain, Steve Downey, Bob Feakins, Jack Hagedorn, Bob Hutton, Enos Jeffs, Bill Kearney, Bob Kelly, Al Martin, Fred Mickey, Joe Pulver, Gordon Smith, Warren Sparks, Peter Toll and Andy Tyszkiewicz.

Under the leadership of Mr.

Sparks, several Ventura members of management are continually involved with CLC, Ventura County's only four-year liberal arts college.

## Hunsberger Wins Billiards Tourney

Hal Hunsberger went undefeated to win the first half of the Ventura Division Billiards Club's 14 and 1 tournament. Mr. Hunsberger emerged from a five-way tie to win it.

Robert Provart was second and runners-up were Ralph Reeves, Ted Randolph and Ken Brubaker.

The second half of the tourney is under way. Play takes place during the early evenings in the Rec Club facility. A handicapping system provides an equal opportunity for all players.

## Club to Sponsor Tourney

A chance to have some fun while shooting at top prizes and — most importantly — contributing to a scholarship fund sums up the special Northrop Management Club Scholarship Fund Tournament scheduled June 18 at the Conejo Bowl in Thousand Oaks.

Sponsored by the Ventura Division's Management Club, the tournament will take place on 14 specially-reserved lanes. Squad starting times are 9:30 a.m., noon, 2:30 p.m. and 5 p.m. Entry fee for three lines of bowling at any of the above times (three games together) is \$4. Bowlers may enter more than once.

Dutch Youngers, who is chairing the event for Management Club President Dave Coe, said "everyone will have a chance at the prize money." Prizes will be awarded for men and women's

high handicap series per squad and tournament highs, too, with a special handicapping system to be used for all bowlers.

"We hope to be able to raise a lot of money for the scholarship fund," Mr. Youngers added. He stressed that the event is designed for all bowlers, not just those currently active in league play.

The following application blank should be filled out and returned to either Mr. Youngers in Engineering, or Paul Wood, in Manufacturing by June 9 with the entry fee of \$4. State preferred and alternate starting time. The tournament coordinators will then determine squads and times.

Further information can be obtained from Mr. Youngers or Mr. Wood.

### \$4 FEE/ENTRY FORM

## Northrop Ventura Management Club Scholarship Tournament

Conejo Bowl—Thousand Oaks—June 18, 1972

Name:.....Avg:.....

Address:.....Man:.....

Phone:.....Woman:.....

Note: All entries subject to re-rate by tournament committee



# \$9 MILLION CONTRACT RECEIVED FROM U. S. NAVY

The Ventura Division late last month received \$9 million from the U.S. Navy as the second increment of a production contract for the Mk 30 underwater target.

Initial \$1 million funding of this third production contract with the Naval Ordnance Systems Command, Washington, D.C., was announced in early March. Included in the order are target vehicles, support equipment, special test equipment, spare parts, batteries and training.

"This is a major milestone in our Mk 30 effort which began with the first Navy order in 1967. But we have much work ahead," commented Welko E. Gasich, division general manager.

"The Navy continues to look to us for the best underwater target. The Mk 30 team must redouble its efforts and meet test schedule dates if we expect to obtain further Navy funding," Mr. Gasich said.

He cautioned that the competition remains intense. "Now, more than ever, we must show the Navy that their confidence will motivate us to higher levels of performance."

The versatile Mk 30 underwater target is used to train anti-submarine warfare crews aboard surface ships, aircraft or submarines. The vehicle can be launched from surface ship or submarine, recovered at the conclusion of its mission and re-used.

## NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 30, No. 6

June 1972

### Mrs. Kelting Is Trades Council Vice President

Mary Kelting, of the Employment group at the Ventura Division, has been elected a vice president of the Trades Advisory Council for the Ventura School.

The Ventura School is a co-educational facility operated by the California Youth Authority for troubled teenagers.

Mrs. Kelting's group, the Trades Advisory Council, advises the school on vocational training for the students, as well as specific industrial career preparation.

A Northrop representative to the group for two years, Mrs. Kelting recently led a delegation of the young people on a tour of the Ventura facility.

### SERVICE AWARDS

Three 15-year men top the June list of Venturans qualifying for Northrop service awards. They are Mel Turner, Bob Boulanger and Joe Ferro. (See SERVICE AWARDS, page 6)



**SURPLUS SALE** kept buyers busy at Ventura recently as several hundred items were sold to personnel on a fast-paced first come, first served basis. Robert Thornton's photo illustrates the speed of the sale.

### Hiding Artistic Talents? This Art Show Wants You

Curly Martin, head of Arts and Graphics at the Ventura Division, is on a talent hunt—creative talent, that is.

He wants all Ventura personnel who are artists or craftsmen to bring in their artwork. Mr.

Martin's staff will photograph the artist and his work and then display the slides as part of Mr. Martin's "Tuesday Matinee" presentation next month.

"I'm sure there are a lot of people around here who are involved in all sorts of artwork," Mr. Martin explained. "This will give them a chance to share it with their co-workers."

Personnel with hobbies involving sculpture, macrame, pottery, painting, woodcarving, silkscreen, jewelry or photography are invited to bring their work in for the showing.

"This isn't a contest," Mr. Martin noted. "We aren't giving away prizes nor requesting any fees."

All interested personnel must bring in their work to Mr. Martin's department by the end of June. All work will be photographed and returned to the artists almost immediately.

### Mobile X-Ray Lab Will Visit Ventura Tuesday

Many Ventura personnel will take advantage of that "ounce of prevention" next week when the Mobile X-Ray Survey Lab visits the Ventura Division on Tuesday.

All personnel who have filled out appointment request cards in advance will be notified Monday, June 26, of their scheduled appointment. They will then take their card and the \$2 fee to the x-ray unit at the scheduled time.

If the x-ray is normal the subject will receive a post card with the good news. In the event of abnormal findings, the employee will be notified and information sent to his personal physician upon the employee's signed request.

The visit of the mobile x-ray unit is being coordinated by Ventura's Medical Services, Elinor Eckles, R.N.

### In Memoriam

Ventura personnel express their deepest sympathy to the families of L.L. (Lew) Fisher and Donna L. Norris.

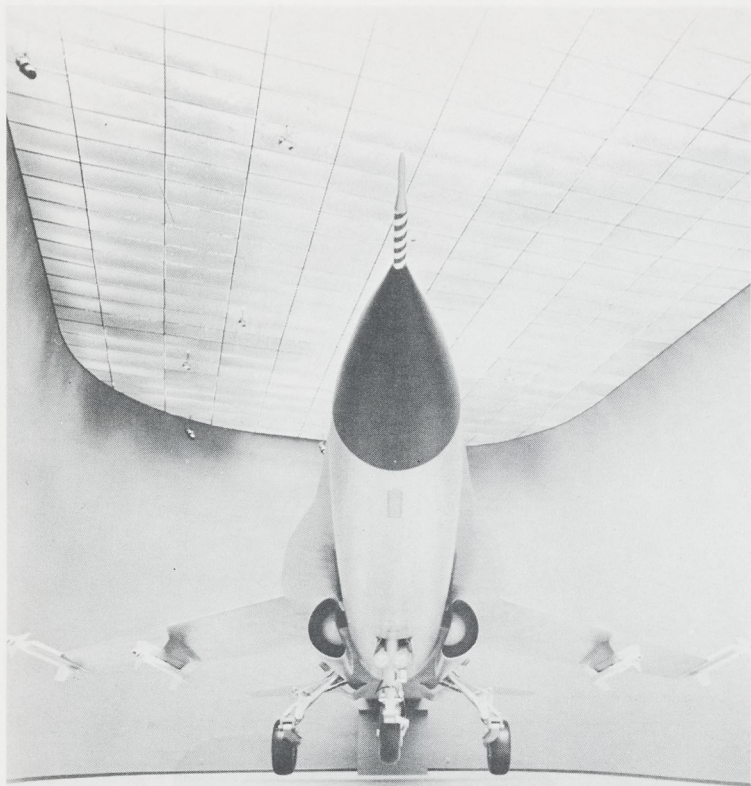
Mr. Fisher passed away May 27 in a San Fernando Valley hospital. He joined Northrop on Sept. 20, 1951 at the Aircraft Division and transferred to Ventura on Aug. 1, 1966. At Ventura he was manager of Configuration Management and Engineering Release.

Mrs. Norris passed away May 22 in a Thousand Oaks hospital. She had worked throughout the Ventura Division as a pool secretary since Aug. 1, 1966.



**NORTHROP T-38** on display in a Thousand Oaks shopping center was popular with youngsters and many Venturans who have worked on the trainer but never saw it firsthand.





**THIS VIEW OF NORTHROP'S new P530 air superiority fighter shows why the aircraft is known as the Cobra. The leading edge extension of the wing, which flanks the forward part of the fuselage, closely resembles the hood of a Cobra. The P530, however, with its quick-firing M-61 gun and air-to-air missiles, will have a bite more deadly than its namesake. The new fighter is designed to meet the defense needs of the Free World in the 1975-1990 time period.**

## NADC May Plan Thai Airport

The National Executive Council of Thailand has advised Northrop Airport Development Corporation (NADC) that a decision has been made to construct a new international airport at Bangkok to serve the growing needs of this major air transportation hub of Southeast Asia.

A special committee headed by Air Marshal Dawee Chullasapya has been established by the Royal Thai Government with instructions to negotiate a contract with NADC for the total airport program including the master plan, design and construction. NADC, located in Vienna, Virginia, is a subsidiary of Northrop Corporation.

The NEC stated that, although the present airport at Don Muang is being expanded to take care of the needs for the im-

mediate future, design and construction of a completely new international civil airport must begin immediately in order to keep pace with expanding aviation traffic, tourism and Thailand's rapid economic growth.

It is estimated that the first phase of this new international airport will be completed in five years and will cost approximately 100 million dollars (U.S.). Additional phases of expansion are planned over a subsequent 25-year period. It will be one of the most modern and efficient airports in the world and will be designed to handle Thailand's passenger and air cargo growth for 25 years from 1977.

The new airport site will be at Nong Ngu Hao approximately 20 kilometers southeast of Bangkok.

After meetings with Air Marshal Dawee Chullasapya, Glenn R. Lord, president of NADC, said, "We consider it a great honor to have the opportunity to work under the direction of the Royal Thai Government and to participate in building one of the world's most modern and efficient international civil airports."

## Rex Madeira Brings Wide Experience to Northrop

Rex H. Madeira is president of Northrop Worldwide Aircraft Services, Inc., formerly Page Aircraft Maintenance, Inc., which Northrop acquired this month.

Mr. Madeira, who attended the University of Oklahoma's School of Mechanical Engineering, began his career in the aerospace industry as an instructor at the Spartan School of Aeronautics in 1941.

In 1945 he was made assistant coordinator of the Inter-American Program, sponsored by the U.S. Government, which established an aircraft engine training program for 250 Latin American students.

This was followed by duty as assistant director and then director of Spartan's School of Aviation Mechanics. After a tour as project engineer for special assignments, he became assistant director of training in 1953 and director of Training in 1954. In this position he was responsible for over-all management of Spartan School of Mechanics, School of Flight Engineering, School of Flight Ground School, School of Meteorology, School of Aircraft Instruments, and logistics support for the schools and students.

In 1956 he became sales manager for Spartan Aircraft Division and in April 1957 joined Page Aircraft Maintenance Inc., as executive vice president and general manager, moving to president in February 1964.

## A-9A Cachet Covers Ready

A-9A first flight covers are available for stamp collectors at Personnel Activities. Through arrangements with the NRC Stamp Club, the covers are printed with an attractive cachet of the A-9A. They have an 11 cent air mail stamp and were cancelled by the post office on the day of the flight. They are priced at 35 cents each or three for a dollar.

## CIRCUS TICKETS

Personnel Activities at the Aircraft Division has reserved 250 seats at The Forum for the Ringling Bros. and Barnum and Bailey Circus on Sunday, July 30.

The performance starts at 6 p.m. Box seats are \$5.25, but employees pay \$4.25.



MR. MADEIRA

## NORTHROP PAYS CASH DIVIDENDS

Northrop's board of directors has declared a quarterly dividend of 25 cents per share on Northrop common stock. The dividend is payable June 24 to shareholders of record June 5.

The board also declared a quarterly dividend of 36 1/4 cents per share on Northrop \$1.45 cumulative preferred stock, payable July 8 to shareholders of preferred stock of record June 20.

## Wilcox System Tested by FAA

Wilcox Electric Company's Mark I/C Instrument Landing System is currently undergoing an extensive FAA field and flight test evaluation program at Dulles International Airport near Washington, D.C.

The Mark I/C system consists of a single frequency localizer station, capture effect glide slope station, two marker beacon stations and remote control and status display equipment.

The localizer and glide slope systems have met all performance requirements, according to FAA engineers. Test results of the remaining equipment have not been announced.

Prior to delivery of the system to the FAA, the Mark I/C completed reliability demonstration testing without a single failure. The system was operated successfully for more than 28 days. This exceeded the contractual requirements for demonstrated Mean Time Between Failure (MTBF).

Wilcox is a wholly owned subsidiary of Northrop.

## HOLIDAY COMING

July 4 will be observed as one of Northrop's regular paid holidays.

Another long weekend is scheduled for Sept. 4 when the company will observe Labor Day.





ONCE AGAIN THE EVER-POPULAR Northrop Night at Disneyland, sponsored by NRC, provided Northrop families and their friends a wonderful time.

## Old Pin Earrings Rewards Wife

When Leo Grizel, Electro-Mechanical Division, received his 25-year service pin recently he was left with obsolete 15 and 20-year diamond-studded pins.

Instead of putting the old pins away, he used a bit of gold-plated loop wire, two small rings and a couple of ear pieces to turn them into earrings for his wife, Elna.

"At first I wondered about the propriety of my wife wearing my old pins, but then I decided that she had contributed a lot to my working with Northrop and that she was as much entitled to wear the service awards as I am," he said.

The earrings were presented to her on Mother's Day.

*The editorial in the adjoining column is excerpted from a new McGraw-Hill editorial series on America.*

## EDITORIAL

**'—Promises to keep, and miles to go before I sleep.'—Robert Frost**

IN 1976 America will celebrate the 200th anniversary of a unique promise: the promise of "Life, liberty and the pursuit of happiness." It is good to pause and look back on what we have done to make this promise come true, and also to look ahead, because America has new promises to keep.

We have promised to make life more meaningful. To conserve our natural resources. To restore our environment. To clean our air, our water, and to reshape our cities.

We have promised to safeguard public health. To give new hope to the poor and to assist the disadvantaged and enrich the lives of the old. All these things and more we have promised ourselves, but how do we match promise with performance?

There are no simple answers, but as we stand hesitant at a crossroads, it is perhaps time for a little plain talk.

There is no easy path that will take us where we want to go. The easy paths lead backward or nowhere. There is no way to produce less and have more. No way to sit on our aspirations and expect things to take care of themselves.

Somebody, somehow, has got to do the conserving, protecting, restoring, rebuilding, safeguarding, educating and enriching.

The only way to do a better job in all these areas is to work at the job. Work harder, or smarter, or both. And most importantly, work together. There is no liberal way, no conservative way, no business way, no labor way. There is only a productive or a non-productive way.

THE productive way calls for all of us to join together. Not in perfect harmony, not in ultimate brotherhood or in some high-flown crusade. But in the simple recognition that we all—business, labor, government and private citizens have a job to do.

Thus we all have contributions to make. The original promise was set forth in the Declaration of Independence. The new promises of America call for a new Declaration of Interdependence.

This awareness of our mutual dependence is the new Spirit of '76. It cannot be proclaimed, imposed or legislated. It will begin only when people look at our goals on one hand, forget our petty squabbles on the other, and conclude, "We can't get there from here."

There are, at this crossroads in time, many paths to take, but there is only one way to go. Forward. Together.

For we have promises to keep and miles to go before we sleep.



## General Geranopoulos Has Had Busy, Dramatic Life

Northrop International's office in Athens, Greece, is one of the busiest in the company's world-wide network. Currently General C. D. Geranopoulos, director, is working on such programs as the F-5E program in Greece, follow-on target contracts on Crete for the Ventura Division, the new Athens International Airport for Northrop's Airport Development Corp., and other programs of interest to Page, Hallicrafters and the Electronics Division.

Being busy is no novelty to General Geranopoulos — being busy is the story of his life. He was born in Cairo, Egypt, of Greek parents in 1914. Shortly after his birth, his parents returned to Athens where he attended the First Gymnasium, the oldest Athenian school in the old part of the ancient city. This, he says, qualifies him to call himself a "pure Athenian."

He graduated from the Helle-



GENERAL GERANOPOULOS

## 'Bud' Montag Is Named NAS VP

B.W. "Bud" Montag, Jr., has been appointed vice president of Northrop Architectural Systems, according to James E. Ware, president.

Northrop Architectural Systems, located in the City of Industry, is a wholly owned Northrop subsidiary engaged in manufacturing architectural metal products for homes and buildings.

Mr. Montag is a 16-year veteran of Northrop. Prior to being elected vice president, he was controller for Northrop Architectural Systems, coming here a year ago from a similar position with Northrop Carolina. Previous to his assignment to Carolina, Mr. Montag was with the Ventura Division.

nic Air Force Academy in 1936 and was a World War II fighter pilot. After Greece was occupied by the German army, he tried unsuccessfully to escape and then organized a resistance group called "Homer" for the classical Greek poet.

By 1942 he had expanded Homer into an intelligence network of 500 people, including three sabotage groups. The Germans arrested him in 1944, but he escaped two weeks later in a small fishing boat, making his way through Turkey and the Middle East to Egypt where he rejoined the exiled Hellenic Air Force.

He returned to liberated Greece in 1945 to command the Hellenic Air Force Academy. From 1947 to 1949, during Greece's war against the Communist guerrillas, General Geranopoulos served in various positions with his country's Tactical Air Command.

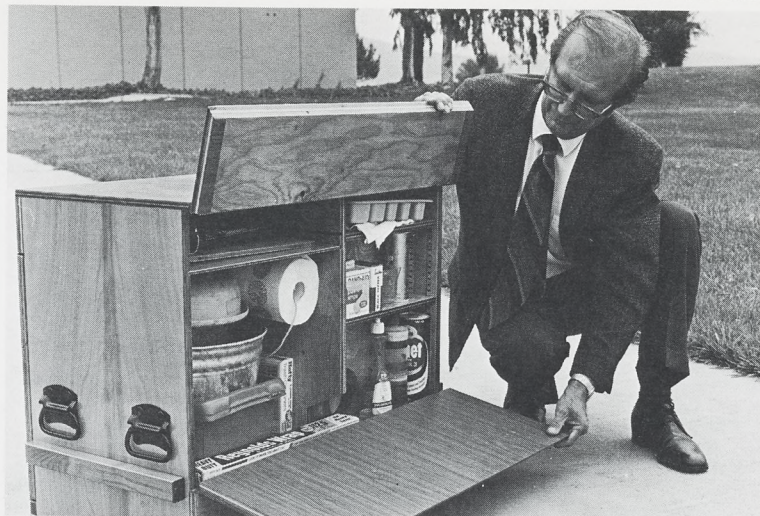
In June 1954 he was promoted to general and assigned to NATO's 6th Allied Tactical Air Force, returning to Greece in 1955 as deputy chief of staff for Operations. In 1957 he became a major general and vice chief of the General Air Staff.

He left the Hellenic Air Force in 1961 as a lieutenant general and in August became a part-time consultant to Northrop International. In March 1963 he became a full-time consultant to Northrop, and in August 1969 became Northrop's resident director in Greece.

During the 11 years he has worked for Northrop, General Geranopoulos contributed to the F-5 program in Greece, the Greek TV network built in Greece by Northrop Page Communications' Page-Europa subsidiary, and the Target Services for NATO on Crete.



NORTHROP GREECE OFFICE



VERN LIPPERT AND PACKED CAMPING BOX

## SPACE-SAVER

## Lippert Helps Girl Scouts

Next time Northrop's Vern Lippert and his wife, Joanne, take their Girl Scout troop on a camping trip they'll be taking more equipment but it will take up much less space.

Mr. Lippert, an Engineering planner at the Ventura Division, has designed and produced a special camping equipment box. The new multi-purpose wooden container holds enough cooking and eating utensils, tools, and related necessities to accommodate a patrol of eight to ten girls.

A Girl Scout leader for two years, Mr. Lippert said the troop "used to pack all the stuff in three or four cardboard boxes." He saw some other equipment boxes and "I combined all of their good features into one."

The result after a month of design and two months of part-time fabrication would please a professional cabinet-maker.

"Actually, we've already tried it out twice and it works just fine," explained Mr. Lippert. A special feature includes a folding aluminum stand which can be used to raise the box to a level providing a counter-type work space.

Bigger items, such as tents, lanterns, stoves and food are packed separately. "What the box does is take all of the little loose ends and puts them all together," he noted. The girl in charge of the box has a checklist so that all of the 67 items can be accounted for.

Mr. Lippert became active as a Girl Scout co-leader with his wife, after she took over a troop three years ago. And Mrs. Lippert's interest was sparked by a Girl Scout daughter, Theresa, 15.

"We have 35 girls in Cadet Troop 307," Mr. Lippert said, "and a big waiting list." The Woodland Hills youngsters are in the 13-15 age group. But Theresa is not in their troop. She's in another one.

The Lipperts want to make sure Theresa develops her own personality with her peers. "But she'll be going with us this summer when we take the troop to a Colorado Ranch for 10 days," he adds.

Girl Scouting means a lot to the Lipperts. Aside from running the troop ("actually the girls run it themselves"), Mr. Lippert headed his area's annual fund-raising drive this year and Mrs. Lippert was in charge of the same campaign the previous year.

But in concentrated time, the equipment box represents one of the biggest efforts. Mr. Lippert needs three more for his other patrols by next fall. "This time the other fathers will help," he says with a laugh.



SPACE-SAVER UNPACKED



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Pickup**, V-8 Ford, 1956 custom cab, F-100, 1/2-ton, 312 eng., stick shift, o/drive, \$700. 213-756-1812.

**Buick**, 1967 Skylark, 2-dr., vinyl h/top, r/h, p/s, auto., new bks., \$1,200. 714-832-5050.

**Jeepster**, 1948 Willys, convt., Chev. powered, auto., flr. shift, \$285. 213-679-3889.

**Rambler**, 1962, 4-dr. sedan, 46,000 orig. miles, 6-cyl., std. shift, \$400. 213-329-6420.

**Mustang**, 1968, 390 eng., p/b, p/s, Cruisomatic trans., a/c, AM-FM stereo radio, \$1,799. 213-431-9620.

**Chevrolet**, 1960, 2-dr., r/h, 6-cyl., std. shift, \$200. 213-673-2637.

**Mustang**, 1965 convt., 3-spd. stick, rebilt. eng., \$600. 213-534-3410.

**Chevrolet**, 1964 Super Sport Impala, p/s, r/h, \$1,544-3742.

**Karmann Ghia**, 1966, new clutch & tires, \$850. 213-375-9527.

**Oldsmobile**, 1963 F-85 Cutlass, rear body part damaged, Hydra. trans., posi-trac. diff., a/c, p/s, p/b, radio, \$125. 213-679-9195.

**Pontiac**, 1959 Sky Chief, good eng., \$150. 714-644-5265.

**Fiat**, 1968 124 sport cpe., \$1,300. 213-325-0487.

**Karmann Ghia**, 1958, '60 eng. & trans., needs body work, \$150. 213-324-2690.

**Pickup**, 1968 Ford F-100 Fleetside, Gem top camper, auto. trans., r/h, 2 bltin bunks, \$1,875. 714-521-5552.

**Volkswagen**, 1965, needs body work, \$175. 213-347-7861.

**Ford**, 1968 Falcon, 2-dr., auto., r/h, p/s, \$695. 213-671-4550, 714-638-1164.

**Mustang**, 1965, 2-dr. h/top, 289 V-8, 35,000 mi., r/h, p/s, p/b, auto. trans., \$950. 213-675-6885.

**Volkswagen**, 1968, r/h, 36,000 mi., \$1,095. 213-644-0738.

**Chevrolet**, 1957, '64 Corvette 327 hi-perf. eng. & posi-trac. diff., 3-spd. Munsey trans., \$395. 714-737-2742.

**Panel Truck**, 1963 1946 Chev., 6-cyl., floor shift, \$600. 213-542-1946.

**Station Wagon**, 1963 Rambler Classic 500, 6-cyl. short blk. eng., r/h, 12 mo. warranted batt., auto. trans., \$225. 213-677-0518.

**MG TF**, 1954, rebilt. motor, \$1,900. 213-288-3432.

**Chevrolet**, 1964 Nova, auto., 6-cyl., 2 dr., \$600. 213-676-4464.

**Volkswagen**, 1959, r/h, \$250. 213-823-4258.

**Buick**, 1964 Riviera, new tires, \$600. 213-542-5070.

**Buick**, 1956, \$200. 213-327-2252.

**Volkswagen**, camper, 1971, 13,000 mi., \$3,100. 213-421-2121.

**Toyota**, 1971 Corolla, AM-FM radio, new tires & brakes, \$900. 213-329-1861.

**Volkswagen**, 1970 1600TL fastback, electronic fuel inject, disc brakes, Blaupunkt AM-FM radio, \$1,800. 213-834-7589.

**T-Bird**, 1957, new paint, \$1,595. 213-833-3402.

**Ford**, 1964 Fairlane, 2-dr., 6-cyl., \$250. 714-828-5843.

**Dodge**, 1965 Custom 880, 2-dr., a/c, p/b, p/s, \$325. 714-830-4236.

**Plymouth**, 1965 Fury III wagon, a/c, radio, p/s, p/b, rack, orig. owner, eng. o/hailed, \$650. 213-377-1074.

**Subaru**, 1971 Deluxe 360, 3,000 mi., \$500. 213-265-2935.

**Maverick**, 1970 Grabber mod., 200 cu. in., 3-spd. man. trans., \$1,600. 714-644-5752.

## Miscellaneous For Sale

**Cartop Carrier**, fully enc., water proof, lge., approx. 4' x 7' x 18", \$15. 213-375-4574.

**Dog**, reg. pomeranian, male, 2 1/2 yrs. old, pedigree papers, \$75. 213-542-7564.

**Organ**, Thomas, mod. 565, walnut, solid state, \$850. 213-888-8018.

**Bicycle**, Raleigh chopper mod., \$35. 213-454-2675.

**Hardtop**, for 1963-67 Corvette, \$150. 213-631-3008.

**Antiques**, dishes, glassware, 38 items, \$2 & up. 213-375-8536.

**Exercise Bike**, used little, \$30. 213-326-5731.

## Miscellaneous For Sale

**Acreage**, 2 1/2 acres, off Pearlblossom Hiwy. in Antelope Valley, 10% dn., \$11,500. 213-430-1952.

**Lens**, 35 mm 2.8 Auto-Vivitar, Pentax fitting, \$25. 213-328-4128.

**Camper**, 1969 mod. 800, Californian, 9' cabover, dble. SS sink, ice box, stove, stabilizers, La Jaga loader, \$1,150. 213-375-1324.

**Couch**, Hide-A-Bed, \$35. 213-426-4060.

**Travel Trailer**, 1971 22' Roadliner, fully self-contained, 12,000 b.t.u. roof air, Honda rack, \$3,300. 213-542-4624.

**Amplifiers & pre-amplifiers**, Heathkit, \$39 or sell sep. 213-376-4831.

**Motorcycle**, 1971 Honda 100 SL, 700 mi., \$325. 805-492-2177.

**Accordion**, Contello, 120 bass, \$200. 714-778-4517.

**Tent**, Sears, 9x18, pole carrying case, sand stakes, \$95. 213-323-7171.

**Mobile Home**, 1966 Golden West, 20'x57', 2-bdrm., 2 bath, bltins, f/air ht. & cooler, cpts., dps., awnings, skirts, stor. bdg., \$11,500. 213-835-7668.

**Metal Detector**, Tech-Tronic, lightweight mod., \$50. 213-675-2005.

**Saxophone**, \$100. 213-672-8750.

**Wall-Beds**, 2 fold-ups that swing out from door-jamb mount, 1 roll-away, \$80. 714-892-1945.

**Guitar**, elec., Harmony semi-acoustic mod., Humbucking pickup install., \$69.50. 213-377-2552.

**Archery Bow**, 70-lb. pull, recurve, \$35. 805-498-2787.

**Pups**, springers, AKC, \$75 & up. 213-994-5683.

**Airplane**, Tripacer, 150 h.p., full panel, 360-channel radio & omni head, at Torrance Airport, \$3,800. 213-378-1523.

**Cabin Tent**, Sears, 10'x16', 1-yr.-old, \$120. 213-328-7880.

**Dining Room Chairs**, 6, Mediterranean style, \$9 ea. 213-860-3022.

**Acreage**, 2 1/2 acres, Antelope Valley, E. side, water and elec. to prop. corner, \$400 dn., \$45 mo., 7% int., \$4,950. 213-378-1026.

**Rocker Arms**, Chrysler 392 MT alum., \$50, many other parts. 213-371-2531.

**Amusement Center**, Magnavox, color TV-stereo-record player, Mediterranean, \$600. 213-663-3622.

**Surfboard**, 7' 4", light wt., by creative design, \$50. 213-328-6662.

**Washer & dryer**, Westinghouse, matched, elec., \$50 ea. 213-833-7903.

**Hairsetter**, Sears elec. mist, 20 rollers, used once, 1 yr. guarantee, \$7. 213-670-4645.

**Sewing Machine**, Sears zig-zag, portable, case, table, \$50. 213-675-5965.

**Motorcycle**, 1968 Montgomery Ward Mojave, street-type, 250 cc, less than 4,000 mi., \$225. 714-772-7394.

**Cemetery Lots**, 2, Garden of Benediction, Rose Hills Memorial Pk., \$700. 714-839-2764.

**Audio Stereo**, record changer & 4-track tape cartridge recorder-player combo on 1 base, \$135. 213-322-1892.

**Pistol**, Frontier Scout, 22 single action, 6 shot, w/holster, western style, \$40. 213-370-3821.

**Trailer Hitch**, E-Z, 2 yrs. old, for 14' to 18' trailers, \$60. 213-676-5787.

**Bar**, Mediterranean style, 5' long, padded armrest, stools, \$150. 213-373-4336.

**Cats**, Siamese, pr. male & female, neutered, declawed & all shots 15 mos. old, \$50 pr. 213-324-4507.

**Golf Shoes**, ladies 6a/3a, white, worn once, \$10. 213-379-3300.

**Engine**, Plymouth, 426 c.i. Wedge, complete balanced, heads redone, \$225. 213-675-3195.

**Fertilizer Spreader**, 20", \$10. 213-676-3050.

**Motorcycle**, Heathkit Boonie, trail type, almost new, \$125. 213-695-1687.

**Playpen & car bed**, infant's seat, bumper pad for full size crib, \$22. 213-374-7625.

**Tires**, for dune buggy, 11.00-16 high floatation, mounted on wide Porsche whls., \$75. 213-821-9110.

**Acreage**, 15 acres, adjacent to California City Airport runway, 10% dn., \$270 mo., \$2,000 acre. 714-892-5801.

**Tent Trailer**, 1968 Nimrod, attach. side room, \$450. 714-847-5220.

**Crib**, full-size, new mattress & teething rails, \$10. 213-324-9904.

**Coffee Table**, Italian marble, 16" h. x 20" w. x 60" long, \$45. 213-645-0709.

**Beds**, maple, twin, \$25. 213-541-3000.

**Sofa**, sec. 3-pc. blue-green brocade, \$120. 714-842-1962, 714-531-4318.

## Miscellaneous For Sale

**Camper**, 8' Merced, cabover, butane stove w/oven, sink, 16 gal. water tank, 75 lb. ice-box, \$795. 213-370-6400.

**Mobile Home**, 1971 Villa West, 24x52, 2 bdrm., 2 bath, Alcan siding, air, w/skirting, carport, covered porch, utility shed, many extras, \$17,500. 213-835-1443.

**Motorcycle**, 1970 Kawasaki, 238 cc, st. legal, \$350. 213-532-7846.

**Motorcycle**, 1955 Triumph, 650 cc, \$400. 213-323-1476.

**Home**, steps to surf, 3-bdrm., 2 baths, f/ place, sunporch & apts., 2-bdrm. & 1-bdrm., \$72,500. 213-379-4471.

**Bedroom Set**, 5-pc., king, contemporary, cherrywood, mattress & box springs, \$275. 213-379-4572.

**Floor Polisher**, w/shampooer & scrubber, Regina, 2-sp.d., \$30. 213-329-2842.

**Refrigerator**, GE & dinette set, \$40. 213-679-2409.

**Motorcycle**, 1964 Yamaha, 80 cc, step thru frame, st. legal, \$125. 213-377-5450.

**Travel Trailer**, 1972, fiberglass, 12', gas/elec. refrig. & lights, 3-burner stove, htr., 12 gal. water tank, awnings, \$1,395. 213-378-2369.

**Wedding Set**, combination white & yellow gold, \$500. 213-866-4104.

**Motorcycle**, 1970 Hodaka Ace 100, many extras, \$225. 213-325-7759.

**Boat**, 18 7" Glastron Sea Flite, 90 h.p. Evinrude motor, trailer, extras, \$1,200. 213-371-0714.

**House**, 3-bdrm. & family rm., 1 1/4 ba., P.V. f/place, h/wood floors, f.a. heating, det. dble. gar., near Aircraft Div., \$32,500. 213-327-2279.

**Recording Tape**, Scotch, 14 new 7" reels, \$1.45 ea. 213-673-5614.

**Dinette Set**, modern walnut & black vinyl, round table w/leaf, 4 chairs, \$45. 213-672-1090.

**Lot**, 50 x 170', & lifetime membership in Lake Elizabeth Ranch Club, golf course & lake, terms or \$2,500. 805-252-2468.

**Clothes**, junior & girl's, new & used, sizes 10-14, \$2-\$10. 213-833-7819.

**Seats** for VW, 1 front, 1 rear, gray, \$15. 213-541-2843.

**Wash Basin**, Vitrous china w/cabinet below, complete w/fittings, \$10. 213-328-0887.

**Cemetery Lots**, 4, Green Hills, \$250 ea. or \$800. 213-784-3802.

**Refrig.-Freezer**, Admiral, frost-free, 2-dr., 13 cu. ft., 4 yrs. old, \$100. 213-644-4859.

**Refrigerator**, Westinghouse frost free, white, \$100. 213-373-3067.

**Boat**, 1970 Minisport, 40 h.p. Merc., trailer, \$995. 714-644-1195.

**Trans-a-Cord**, Milton Mann, & amplifier, 3 yrs. old, \$595. 213-371-8766.

**Slim-Gym** orig., \$35, moving, many other items. 213-679-2864.

## Wanted to Buy

**Rug**, approx. 18' x 20', any color. 213-372-3827.

**Engine**, 5 to 10 h.p., air-cooled preferred. 213-374-2915.

**Nazi Daggers**, WW II, will pay from \$25-1,000. 213-375-4312.

**Northrop News & Radioplane Target** publications, prior to 1966, 1 copy of ea. consecutive biweekly or monthly, to complete historical collection. 805-495-4595.

## Free (To Be Given Away)

**Pebbles**, load, lge. size. 213-676-6726.

**Parakeet**, incl. cage. 213-375-1685.

**Poodles**, twin silver miniature, AKC, papers, 8 yrs. old, to good home. 213-860-3450.

**Kittens**, 2 part Siamese & Burmese, 3 full Siamese. 213-679-8095.

## Rentals Offered

**One-half Duplex**, 2-bdrm., Imperial Village, unfurn., no pets, small child o.k., gar., \$140 mo. 213-675-2075.

**Apts**, 1 & 2-bdrm., unfurn., cpts., dps., stove & refrig., adults only, near Aircraft Div., \$115 & \$150 213-676-8283.

**Apts**, new duplex, 2-bdrm., 2 baths, bltins, dps., cpts., pvt. gar., 1 block from Northrop, \$200 mo. 312-772-1789.

**House**, on 5 acres, Big Bear Lake, 2-bdrm., f/place, furn., all utils., sleeps 8, \$100 wk., \$45 wk/end. 213-325-8267.

**Cabin**, Lake Arrowhead, family only, \$55 wk/end, \$125 wk. 213-831-1745.

**Vacation Cabins**, Idyllwild, 1 & 2 bdrm, stream, patio, f/place, \$30-\$40 wk/end, \$70-\$90 wk. 213-868-8040.

**Cabin**, 2-story on Big Bear Lake, sleeps 12, f/place, all elec., boat dock, \$125 wk., \$45 wk/end. 714-893-0410.

## Rentals Offered

**Apt**, 2-bdrm., unfurn., cpts., dps., bltins, air-cond., pool, adults, no pets, \$155. 213-325-2512.

**Motor Home**, 1971 Pace Arrow, 20', sleeps 6, a/c, self-contained, insurance, \$150 wk., \$50 wk/end. 714-846-1858.

**Mountain Home**, Big Bear City, 2-bdrm., 1 bath, f/place, furn., incl. linens, \$35 wk/end, \$100 wk. 213-823-1788.

**Cabin**, Big Bear Lake, 3-bdrm., 2 baths, f/place, furn., family only, \$125 wk., \$50 wk/end. 213-326-7232.

**Studio Apt**, 2-bdrm., 2 1/2 bath, sub. gar., adult bldg., Inglewood, \$225 mo. 213-670-6084.

**Cabin**, Lake Arrowhead, no. shore, 200 feet from lake, pvt. dock, \$125 wk., \$200 2 wks. 213-375-2255.

**Cabin**, Lake Arrowhead, close to lake & village, patio, f/place, \$75 wk. 213-845-5949.

**Condominium**, Palm Springs area, furn., 2-bdrm., heated pool, \$100 wk., \$60 wk/end. 213-327-8994.

**House**, 2-bdrm., stove & refrig. optional, by Century & Aviation, \$190 mo. 213-644-3531.

**Vacation Cabins**, Lake Gregory & Crestline, sleeps 6, reserve June-Sept., \$65 wk. 213-821-8150.

**Motor Homes**, 18', \$190 wk., \$59 wk/ends, \$28 day; 20', \$215 wk., \$69 wk/end, \$32 day. 213-676-8949.

**Cabin**, near Arrowhead & Running Springs, sleeps 4-5, \$35 wk/end, \$95 wk. 213-370-7105.

**House**, 3-bdrm., 1 or 2 working girls to share, walking distance to Hermosa Bch., child &/or pets ok, \$95 mo. plus 1/2 of utils. 213-379-4641.

**Apt**, new, ocean front, 2-bdrm., 2 bath, bltins, f/place, open beams, no pets, couple preferred, \$350 mo. 213-374-0142.

**Motor Home**, 24' Islander, sleeps 6, 115 vac. pwr. gen., a/c, fully equipped, self-contained, \$200 wk., & 5¢ mi. 213-596-0024.

**Chalet**, Lake Gregory/San Moritz area, 3-bdrm., 2 baths, split tri-level, fully ctpd., elec. stove, walk to lake, \$55 wk/end, \$160 wk. 714-626-8115.

**House**, Arrowhead, lake view, sleeps 6, blk. from lake & village, \$50-\$60 wk/end, \$120-\$130 wk. 213-821-8143.

## Rentals Wanted

**Garage**, in South Bay area. 213-830-3816.

## Personals

I want to thank all the people of Dept. 5754 for the cards & money collected at the time of my father's death. Friends at this time are very much appreciated. ROBERT L. WILLYARD.

**Ride Wanted**, 8 a.m.-4:42 p.m., between 190th St. & Artesia Blvd., W. of So. Bay Shop. Center, to Eng. Science Ctr., Aircraft ext. 1913, 213-374-6727.

**Ride Wanted**, 8 a.m.-4:42 p.m., Ravenspur Rd., Palos Verdes, to Plant III, Aircraft ext. 4901, 213-377-4727.

**Car Pool or Ride Wanted**, 8 a.m.-4:42 p.m., Rolling Vista Dr. & Palos Verdes Dr. N., Lomita to Eng. Science Ctr., Aircraft ext. 2313, 213-323-8213.

To each of my coworkers & friends in the Model Shop & Research Test Labs, your expressions of sympathy, floral tributes, & donations to the cancer fund in my wife's name, meant so very much to us. LARRY B. DAVIS & FAMILY.

**Wish to join** ride pool, 8 a.m.-4:42 p.m., Encino to Hawthorne Corp. Lab Bldg., Aircraft ext. 4808, 213-987-1570.

**Ride Wanted**, or share driving from Newbury Park to Mariposa, 7 a.m. to 3:42 p.m., Mariposa ext. 6211, 805-498-1235.

We wish to thank all our friends for best wishes & gifts received on our retirement. We leave with fond memories. HUGO & EUGENIA EPPOLITE.

The family of Camille Camet wish to extend our deep appreciation to Northrop for the blood donation & thank you all for your kindness. CHUCK & MARIE SPILLMAN & WIFE JACKI.

I would like to express my sincere gratitude to each & every one who so kindly remembered me during my recent surgery & convalescence. OLLIE CARTER.

We wish to thank all our friends at Northrop for the retirement party, good wishes & gifts. We shall add them to our many fond memories. ART & MARION WEBB.

## For Sale or Trade

**MGB**, 1971, \$2,300 or trade for car of equal equity. 213-671-2042.

**Boat**, 43' Chris Craft, twin engs., live aboard facilities, w/docking in Marina Del Rey, \$20,000 or might trade for house, or consider leasing boat. 213-823-7701.



## Northrop Son, Torgerson, Appointed to AF Academy

An outstanding athletic and academic career at Newbury Park High School has led to an appointment to the Air Force Academy for a Northrop son.

Jerry Torgerson, son of Ventura Division senior engineer Russ Torgerson, has accepted the appointment and will begin his Air Force Academy efforts this summer.

## Huss Is Co-Author For Two Papers

Ron Huss, of Ventura's Pricing and Estimating group, has co-authored two articles which have appeared in recent issues of the Journal of the Association for the Advancement of Medical Instrumentation.

The articles both deal with the problems of on-line computerized analysis of electrocardiograms. They are entitled "Autoregressive models for R-R interval series" and "Clinical use of R-R interval predictions for ECG monitoring: time series analysis by retrogressive models."

Principal author of both articles is Dr. L. Julian Haywood, director of the Coronary Care Unit at Los Angeles County-USC Medical Center.

Young Jerry, as reported in the January edition of the Northrop News, was an All-CIF AAA division pick after quarterbacking his team to the Marmonte League championship for the second straight year. He was also Marmonte player of the year last fall. This spring he was chosen as an all-league baseball player for the second consecutive year.

## SERVICE AWARDS

(Continued from page 1)

Receiving 10-year pins this month are Jeannine Childers, Bill DeMario and Ken Andersen.

Earning five-year pins are Wilma Conklin, Mike Ferjo, Jack Haley, Bert Molina, Bill Payne, John Peters, Bob Reed, John Schneider, Virginia Spayd, Hugh Wilson and Marty Zeller.

## Her K of C Bulletin Wins Award As 'Best In State'

A monthly bulletin for the Simi Valley Knights of Columbus Council edited by Lynn DeLuca, a coordinator in Arts and Graphics at Ventura, has been judged "best in the state."

The 24-page six-by-eight inch publication won over 178 other entries in recent competition judged by the K of C's State Council.

"I guess it was because it has a lot of information and pictures of the members and their activities," said Mrs. DeLuca. She was awarded a plaque for her efforts; it will hang in the Council Hall.

It is the first such newsletter effort for Mrs. DeLuca "and probably the last, too," she says with a grin.

Mrs. DeLuca estimates she spent about 40 hours per month on the bulletin, including design, gathering material, editing and pasting up the pages so they would be ready for the printer. "It has lots of advertising, too," she adds.

There are 250 members in the Simi K of C Council and all attend St. Rose of Lima Catholic Church there. Mrs. DeLuca, who is also the mother of four children, is not a member of the K of C.

"No women are Knights," she explains. "My husband, John, is actually listed as the bulletin editor but it was no secret that I did all the work."

Mrs. DeLuca is also an advisor to the Teen Club which is sponsored by the Simi Knights of Columbus.



**AWARD WINNER** Lynn DeLuca displays plaque presented for her Knights of Columbus bulletin judged best in California.



**VENTURA SOFTBALLERS** standing, from left, Ralph Reeves, Chuck Brune, George Bostater, Rollie Lemm and Dean Wolf. Kneeling, from left, Gene Linhart, Claude Vincelette, Ivan Blum and Dave Coe. Mascot is the great dane Sirius Centaurion and bat boys are Ronnie and Aaron Reeves.

## Ventura Softballers Hit 1-3 Mark

Ventura Division softballers are well into the first round of play in the Conejo Recreation and Park District's Church League competition.

"Although it's called the 'Church League' it's almost as tough as the one we were in last year," explained manager Ralph Reeves, noting his team has won one and lost three in their first four outings.

Second baseman Dave Coe is leading the team's offensive attack, batting at a near .400 clip. Catcher Rollie Lemm and pitcher Chuck Brune are also hitting well.

Rounding out the team are outfielders Claude Vincelette, Ivan Blum, Gene Linhart, George Bostater and Bob Jones. First baseman is Ken Conger and Dean Wolf is the shortstop. Mr. Reeves plays third base and manages the team, too.

## Randolph Fends Off Pool Challengers

Ted Randolph emerged the over-all victor in the first Pocket Billiard Recreation Club Noon-Hour Eight-Ball Tournament as he edged out Jack Halloran, Don Maxwell and Dick Ranes, in order.

Played in two halves, this hotly-contested handicap tournament saw seven players in contention for the first half lead and 11 players fighting for the second half lead.

A new Noon-Hour Eight-Ball Tournament is now beginning and handicapped tournament professional-style 14.1 Pocket Billiard play is also available for other time periods.

Interested pool players are urged to contact Club Commissioner Bill Mullins, ext. 1205.

## Bob Jones Tops Golfers With A 64

His name is Bob Jones but in the May tournament of the Ventura Division Golf Club at Rancho Verde Country Club he played like the famous Bobby Jones.

Mr. Jones, who is also president of the golf club, shot a net 64 to win the A Flight and teamed with Chuck Brune to tie Arden McKinley and Jim Rowe at 61 in a best-ball tourney.

Norm Curtis shot a 71 for second in the A Flight and Roy Shelley followed with a 72. Mr. Curtis' wife, Clara, won the Ladies Flight with a 79. Zeda Armstrong's 80 won her second place.

In the Men's B Flight, barely more than half a stroke provided the difference. Bill Harwell shot 66.67 to edge Mr. McKinley's 67.20. Mr. Rowe had 75 for third.

Randy Cole, Dave Logan and Don Buchanan shared honors for closest to the pin shots on three-par holes.



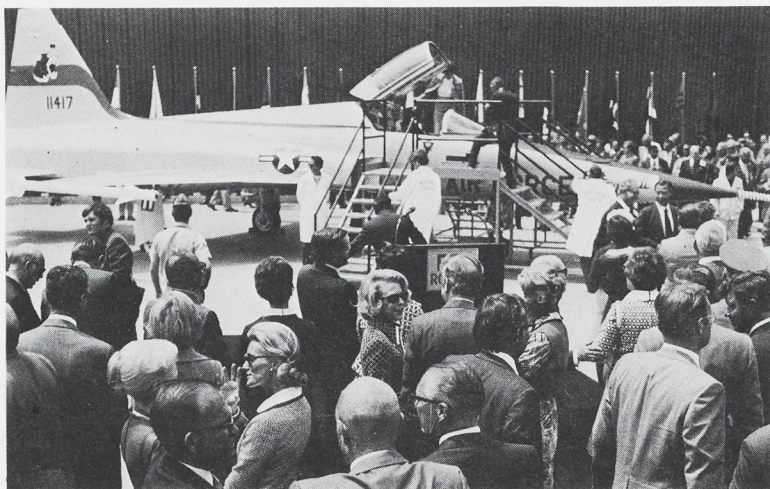
# NORTHROP NEWS

VENTURA DIVISION EDITION

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ENTHUSIASTIC CROWD VIEWS FIRST TIGER II

## Unfinished Symphony Ranch To Be Community Project

The Unfinished Symphony Ranch, Agoura, has been selected as one of the Northrop Ventura community relations projects according to W. W. Kearney, production manager.

The ranch is a private institu-

tion offering a home away from home for 16 to 18 year old girls who are wards of the courts, and is supported largely by donations of cash, clothing, linens, recreation equipment and other items. New or used items will be gratefully accepted.

Bob Ward, Material; Marian Robinson, Industrial Relations; and Robert Hutton, Quality Control, have been appointed to the coordinating committee for the project.

## Drone Recovery Brings Rewards

Two Southern California residents are each \$500 richer because of their location and recovery of Northrop MQM-74A target drones for the Navy.

Jack Doherty, Manhattan Beach, was fishing about a mile north of San Nicolas Island when he found one of the targets floating in the water.

James Fisher of Santa Barbara discovered a target six miles west of San Nicolas Island.

Both targets had been fired in fleet training exercises off Point Mugu.

## BRIDGE WINNERS

The Ventura Division Bridge Club held an open pairs game on the evening of June 24 in the cafeteria.

There were five tables, resulting in Ruth and Bob Tracy taking first place. Doc Powell and Marge Newt took second place. Yee Young and Dori Walters were third and June and Cal Peterson were fourth.

## Division Shares in Rollout of Tiger II

The Ventura Division shared in work on the F-5E Tiger II, the new Northrop International Fighter shown for the first time at a rollout ceremony at Hawthorne on June 23.

The Tiger II is an air superiority fighter designed to meet security needs for many free world nations in the next decade. It is a twin-jet supersonic fighter with low maintenance and operating costs.

Foreign sales of the F-5E are expected to have more than a \$1.5 billion impact on the U.S. balance of trade over the life of the program, and will support more than 12,000 jobs in California.

## DODGERS-CUBS TICKETS ON SALE

Dodger Stadium will host a group from Ventura for the Dodgers-Cubs baseball game, August 18.

A special bus will leave the plant in Newbury Park at six the evening of the game with intermediate stops along the way to the stadium.

Tickets are \$3 including bus fare and may be obtained from your NRC area representative.

The Ventura Division produces approximately 100 separate plastic parts and subassemblies, including various ducting and related subassemblies. The division also supplies the ejection seats, as it has for the T-38 and other aircraft in the F-5 series.

## Ferguson Heads Electronics Div.

David N. Ferguson, formerly vice president and manager of Northrop's Precision Products Department, Norwood, Mass., has been named vice president and general manager of the Electronics Division.

Mr. Ferguson replaces Ross F. Miller, who has been promoted to the presidency of Northrop Page Communications Engineers operations in Iran.

Mr. Ferguson joined Northrop 16 years ago, after a career that included work which opened the field of modern inertial guidance and control.

After joining Precision Products Department, he guided the department to its position as the world's foremost producer of high performance gyroscopes.



DOREEN LOCHMES (nee Roch), program control assistant, opens one of her gifts received at a surprise party and shower arranged by co-workers. Doreen and Bob Lochemes, design specialist, were married in a unique red, white and blue ceremony last month. Both are long-time employees of Ventura.



## Figge to Head California's Jaycees Senators Group

Fred Figge, program director, on the advanced air superiority fighter wing structure program within the Structures and Materials R & T Development, Aircraft Division, has been elected president of the Junior Chamber International Senators of California organization.

A senator is an honorary life membership sponsored by the Junior Chamber of Commerce. It is comprised of former Jaycees who have made outstanding contributions to the Junior Chamber

of Commerce, but who have generally reached the mandatory age limit of the organization. Mr. Figge has been a senator since 1961.

According to Mr. Figge, there are about 400 senators in California, including President Richard M. Nixon, who was recommended for membership through his contributions as a former member of the Whittier Junior Chamber of Commerce.

## Travel Club Sets Tour Meetings

Northrop Travel Club has scheduled a meeting July 21 at the NRC Clubhouse at 8 p.m. to discuss two upcoming tours.

The first tour departs September 26 for 11 days to Alaska. Fly to Vancouver, then take an inland passage tour via many Ports O'Call to Skagway. Tour price, which does not include tax, is \$449 for air fare, hotels, sight-seeing and some meals.

The second tour is the Caribbean cruise which departs on November 30 via New Orleans and Miami. On this tour there is a choice of a 10-day, 4-island tour for \$469, or a 17-day, 10-island tour for \$699, plus tax.

Another tour, always of interest to employees, is the annual Hawaiian Holiday. A kickoff meeting for this trip will be held at the Alondra Club on August 11 at 8 p.m. Price of the tour is \$376.

## LAGUNA FESTIVAL

The Northrop Recreation Club has made arrangements for employees to attend the Laguna Festival of Arts on Saturday, August 26, at the Irvine Bowl.

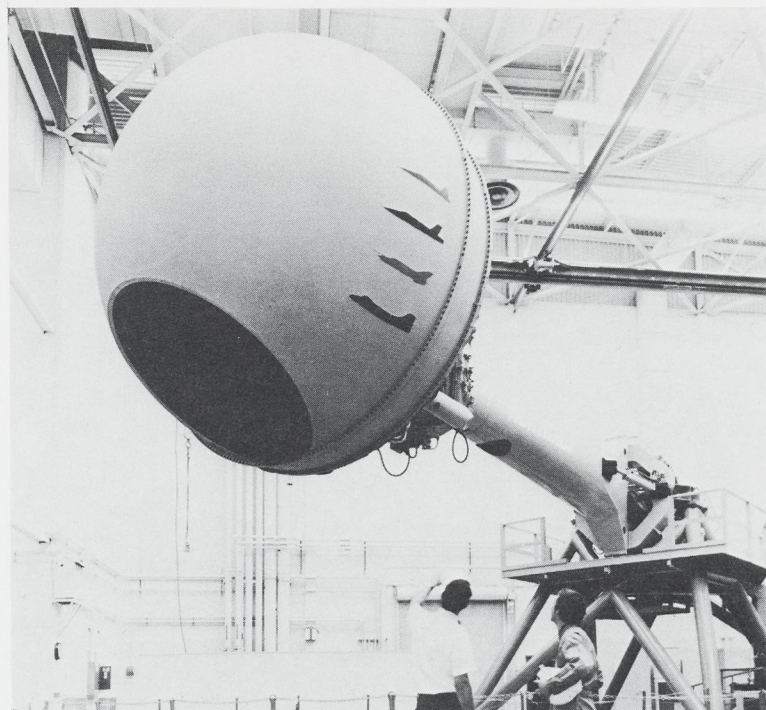
The club has obtained 92 reserved loge seats and will have two buses for transportation to the bowl with departure from Gate 5 at Hawthorne at 5 p.m.

Tickets are available at Aircraft Division Personnel Activities and will be sold only as a ticket plus bus package for \$9.50.

## RETIREE CLUB TRIP

The Northrop Retirement Club has scheduled a trip to Las Vegas on September 27, 28 and 29.

George Sanborn, tour chairman, states that the cost of the trip is \$35 for two nights and three days which includes bus fare, hotel and all meals while in Las Vegas.



SIMULATOR PERMITS 'FLYING' BEFORE PLANE IS BUILT

## Northrop Flight Simulators Verify Designers' Ideas

Flying airplanes before they are built is an everyday occurrence at Northrop's Aircraft Division. The "flying" in this case is accomplished at the Flight Simulator facility, one of the most advanced in the world.

For more than a decade, Northrop scientists have been continuously furthering flight simulation state-of-the-art. The simulators they have developed have become an invaluable tool in determining the validity of aircraft designs.

Simulators, through the use of advanced computer systems, can accurately represent the motions of any aircraft. This can be accomplished even though the aircraft is still on the drawing board.

Northrop's family of simulators range upward in increasing sophistication and realism. They include basic fixed-base instrumented cockpits, a Rotational-Visual Simulator and a large Amplitude Flight Simulator.

The Large Amplitude Flight Simulator is unique in its combination of motion and wide angle visual cues. It has been used extensively for development and research programs related to the company's new A-9A close air support aircraft, P530 air superiority fighter, and other advanced aircraft designs.

Utilizing this simulator, Northrop can develop and have pilots evaluate the combination of aircraft flying qualities and control system characteristics by realis-

tically "flying" the airplane while it is still in the design stage.

Modifications and improvements can then be made in the design process, giving added assurance that the airplane will fly as intended without major modification once it is built.

Pilots who fly the Large Amplitude Simulator sit in a cockpit enclosed in a large hemisphere. The cockpit and the hemisphere are gimbal mounted on the end of a 30-foot beam, providing roll, pitch and yaw movements. The beam is supported on a two-axis gimbal from which the pilot experiences vertical and lateral motions.

### Reality of Flight

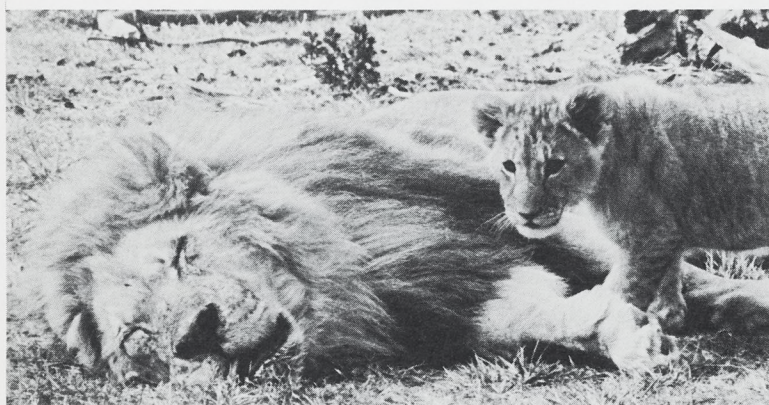
The reality of flight is further experienced by the pilot through the use of projectors which depict sky, earth and target images onto the inside wall of the hemisphere.

In the near future Northrop plans to use the Large Amplitude Simulator for pilot training effectiveness evaluation studies, including air-to-air combat and air-to-ground weapons delivery tactics.

Northrop's Rotational Three-axis Flight Simulator is designed to simulate profiles such as V/STOL takeoff and landing, air-to-ground weapons delivery and general low-altitude operations.

Northrop has also developed for NASA a Differential Maneuvering Simulator which is now in operation at NASA's Langley Research Center, Virginia.

## NRC RECOMMENDS



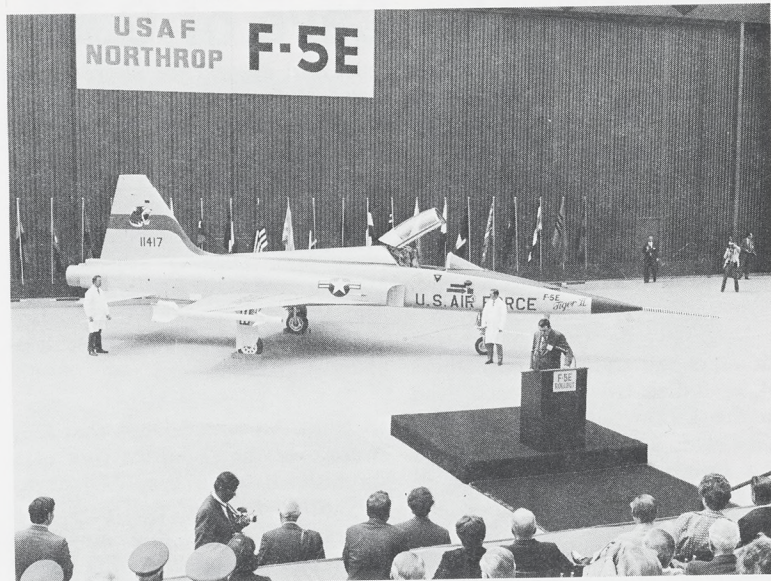
A SAFARI CLUB Membership Card, available through NRC Personnel Activities, is your discount passport to a trip to Africa without leaving California. Lion Country Safari in Orange County is a unique "zoo" where the animals roam free and the human spectators are "caged" in their cars. In addition to seeing the free roaming animals, who often come right up and peek through the windshields at the strange people, your Safari Club card is good for unlimited use on all rides, including a tour down the Zambezi River and a jaunt in a paddle boat shaped like a hippo. Discount tickets through NRC are \$4 for adults, and \$2.50 for the kids.



# Highlights Of The F-5E Tiger II Rollout



T. V. JONES AND GOVERNOR REAGAN DISCUSS THE F-5E



WELKO GASICH ANSWERS QUESTIONS FROM AUDIENCE

## 'CONGRATULATIONS TO ALL FOR A JOB WELL DONE'—MR. JONES

### To All Northrop Employees:

All of us can take great pride in our new F-5E Tiger II International Fighter. The impact of this aircraft, both at home and abroad, will be felt for many years to come. Locally, the F-5E will help stabilize our employment and maintain Northrop's position as a world leader in the design, development and production of tactical fighter aircraft.

Nationally, the F-5E will make a major contribution to the U.S. balance of trade and offset the activities of a growing number of strong, nationalized industries in other countries who have challenged the United States' position as a world leader in aerospace technology and the sale of aircraft abroad.

Overseas, and perhaps most importantly, the F-5E will serve as a symbol of the belief that advanced technology applied to the defense needs of Free World nations can make possible "peace through security."

This aircraft is a fitting tribute to the men and women of Northrop who devoted thousands of hours to its design, development and production.

My sincerest congratulations to all of you on a job well done.

*Thomas V. Jones  
President*



EXPLORER SCOUTS



GENERAL STEWART



AFTER CEREMONY, CROWD TAKES A CLOSER LOOK



DIGNITARIES POSE BEFORE THE F-5E TIGER II



## Search for Relics Turns Into Hunt for Cave of Gold

A search for the ancestral home of the Aztec Indians has turned into a search for a cave of gold for two Northrop men.

They are Don Bodewig, Aircraft Division, and Dick Hess, Electronics Division, who are associated with a third gold hunter, Cal Butcher, a Long Beach printer.

Originally the three began seven years ago trying to find traces of an Indian tribe that once lived in the Salton Sea area. This lost tribe was, according to a legend, the forerunner of the Aztecs of Mexico.

Their search ended when the area was closed to provide an Apollo test ground. In the meantime, they uncovered another legend of a lake in a lost cave. The lake supposedly was fed by an underground river that flows through a series of caves. According to the legend, gold was so

plentiful around the shore of the lake that Indians used to pick handfuls of nuggets to use for trading.

After a long search of the general area, one day they found an odd flat area while descending a mountain. Digging into it, they found lumps of calcium carbonate like that formed into stalagmites and stalactites by water dripping into caves.

### Hopeful Sign

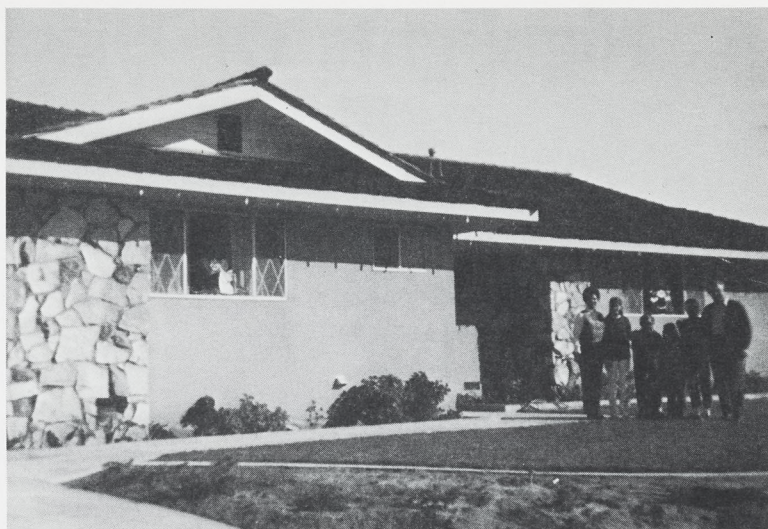
With this hopeful sign that they were over the collapsed roof of a prehistoric cave, they began excavating. During the past two years, they have dug down 45 feet. The ground is getting looser and contains more calcium carbonate, indicating that they may break out soon into the main cave area.

Since they can't all get away at the same time, the three have been going up alone or in pairs whenever they can.

They work with light mining equipment, including small charge blasting. The work area is covered by a "tunnel claim" which permits them to dig 3,000 feet in search of minerals. Then if minerals are found, they can file an appropriate mineral claim.

Present indications are that they are definitely over a cave structure. Whether or not it is the legendary cave of gold is something that only further excavation will prove.

"If it is," they say, "that will be great. If it isn't, we will have uncovered an unknown cave anyway. The fun we've had and the healthful outdoor work will have made it all worthwhile even if we never get to fill our pockets with legendary gold nuggets."



THE DI RISIOS AND THEIR DO-IT-YOURSELF HOME

## DO-IT-YOURSELF

### DiRisios Build Own Home

"Home, sweet home," means just that to Nick DiRisio, Electro-Mechanical Division, and his family. They recently finished a 12-year project to build their own home.

The dream house actually began in 1960 when Mrs. DiRisio began a list of things she wanted to incorporate in the design if it should ever get built. Nine years passed before these ideas could finally be used. They were not, however, lost years for they gave the DiRisios time to consider many plans before they began.

During these years of planning, they bought a lot in Olinda Village, Brea, and then Nick drew his own plans. It took him a year to complete the 17 drawings.

The plans were approved by the Brea Building Department and work began on June 8, 1969. A Northrop co-worker Bob Littell volunteered to help Nick level the ground with a borrowed transit. Nick then built his own form for his raised foundations.

### Many Advisors

His sole previous experience was some building work he had done as a child helping his father, but lack of experience was no handicap. "Northrop has people with experience in just about every field," he said. "Whenever I had a problem, I was always able to find someone who could advise me on what to do."

As a result, he was able to do all the work from foundation to roof except the rough plumbing, plastering and cabinet work which he subcontracted.

Friends dropped around occasionally to lend a hand, but most of the work was done by himself, his wife, Jean, and their children, Fred, Debbie, Gary and Janet.

As for Nick, he worked three-and-a-half hours each night after he left his work at Northrop, using a spotlight for illumination. He worked an additional 10 hours on Saturdays and Sundays.

The house was sufficiently finished to move into before Christmas last year, but the DiRisios did not consider it really finished until all landscaping had been put in.

This was recently completed and a 12-year-dream of a truly "home, sweet home" has come true.

### Dividend Is Paid By Credit Union

The Northrop Credit Union—which serves the Aircraft, Electronics and Electro-Mechanical Divisions, declared a semi-annual dividend at the June meeting of its board of directors, according to Credit Union President R. A. Lindsey.

The dividend is at the annual rate of six per cent and was paid to shareholders of record as of June 30, 1972. The amount of \$258,873.34 was distributed to 9,840 shareholders. The dividend is the same as that declared by the Credit Union board of directors in December.

Mr. Lindsey said that increased earnings by the Credit Union would depend upon increased use of the Union by its members. He pointed out that Credit Union charges, in most instances, are less than those of other financial institutions. Thus, utilization of the Credit Union not only saves members money on their own borrowing, but also results in higher dividends which are returned to them.

## COUNCIL ELECTS JAMES E. WARE

James E. Ware, president of Northrop Architectural Systems, has been elected a director of the City of Industry Manufacturers Council.

The council, which replaced the Industry Chamber of Commerce in 1970, has as its goal the continued stimulation of economic growth of the city and the solution of problems common to the manufacturing community.

Programs are directed at personnel, purchasing, transportation and chief executives of the member companies, and encompass industrial development research, publications of specific interest and plant location assistance.



LOOKING DOWN into what may be the entrance to a fabled cave of gold is Dick Hess.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Porsche**, 1970 911T, chrome whls., elec. sun roof, 16,000 mi., \$5,800. 213-374-2932.

**Dune Buggy**, Berry Mini-T, 1600 eng., many extras, \$3,450. 213-783-6632.

**Scout Wagon**, 1969, r/h, wide whls., V-8, new tires & brks., \$2,495. 213-378-1026.

**Chevrolet**, 1963 S.S. Impala, \$250. 213-532-8289.

**Dart**, 1969, 2-dr. h/top, 225 cu. in. eng., p/s, p/b, \$1,500. 213-860-3450.

**Volkswagen**, 1965 Squareback, new eng. & tires, AM-FM radio, \$850. 213-375-9527.

**Ford**, 1954 cpe., auto. trans., \$75. 213-324-2690.

**Lincoln**, 1964 Continental, full power & air, AM-FM, \$645. 213-377-2552.

**Corvair**, 1963 Monza, auto. trans., radio, eng. o/hailed, \$225. 213-869-1806.

**Chevrolet**, 1972 Nova, V-8, p/s, p/b, \$2,500. 213-645-0685.

**Porsche**, 1960, 356 V-1600, rebilt. eng., AM-FM, \$1,700. 213-376-6489.

**Opel Wagon**, 1970 Super, 27,000 act. mi., \$1,500. 213-370-9124.

**Saab**, 1968, 3-cyl., 2 cy., 2-dr., \$550. 714-526-5358.

**Pickup**, Chevrolet, V-8, 283 cc, 60,000 mi., full cabover camper, w/jacks, 3-way refig., \$700 ea. or both for \$1,300. 213-326-9258.

**Porsche**, 1963 S-90, rebilt. eng. & trans., h/top & soft tops, \$2,500. 213-672-6134.

**Pickup**, 1964 mod. C1100 International, w/10' camper, hvy. duty equipt., \$1,295. 213-329-8393.

**Model A Ford**, 1931, restored, \$1,800. 213-835-7669.

**Pontiac**, 1965 Tempest convt., V-8, \$500. 805-498-8550.

**Station Wagon**, 1971 Volkswagen 411, auto. trans., 85 h.p., \$2,800. 714-774-9183.

**Cadillac**, 1967 Coupe DeVille, fully equipt., \$2,000. 714-968-1470.

**Opel**, 1969 Kadette sport cpe., auto. trans., 102 h.p. eng., \$1,175. 213-248-8274.

**Camaro**, 1968 Z-28 pkg., p/s, pwr. d/brakes, 4-spd., \$2,000. 213-645-7715.

**Fiat**, 1970 850 Spider convt., 12,000 mi., \$1,550. 213-375-5332.

**Rambler**, 1962 L head, auto., \$95. 213-831-9545.

**Mercedes**, 1970 MBZ, 280 sedan, p/s, auto. trans., a/c, p/w, \$6,400. 714-871-7625.

**Plymouth**, 1971 Roadrunner, custom blt., Mag. whls., stereo, 4-spd. stick, 383 cu. ft. d/brakes, \$3,000. 213-670-3820.

**Volkswagen**, 1966, r/h, \$550. 213-670-3902.

**Chevrolet**, 1964 Nova, 2-dr., auto., \$575. 213-676-4464.

**Dune Buggy**, VW, fiberglass, street legal, never run, \$400. 213-324-3654.

**Triumph**, 1968 GT 6, wire whls., o/drive, AM-FM radio, \$1,200. 213-545-4038.

**Jeep**, 1949 Willys CJ3A, new top, batt., carb., \$800. 213-371-2392.

**Datsun**, 1970, 510 sedan, 2-dr., 4-spd., AM-FM radio, \$1,400. 213-676-0392.

**Rambler**, 1964 American, auto., \$450. 213-644-7088.

**Chevelle**, 1971 Malibu, p/s, p/b, a/c, 20,000 mi., \$2,900. 213-376-5753.

**Mercury**, 1971 Marq. 4-dr. h/top, fact. air, many extras, \$4,200. 714-544-2261.

## Miscellaneous For Sale

**Cartop Carrier**, canvas, fits VW, \$5. 213-328-3306.

**Car Topper**, Helite, makes tent & bed, canvas, \$250. 714-544-2285.

**Houseboat**, 12 x 34, on Lake Mead, bltins, f/place, self-contained, sleeps 6, many extras, \$6,000. 213-634-5978.

**Table Lamp**, Early American, made from old wine jug, \$25. 213-325-5245.

**Lot**, Lake Havasu, R-1, lake view, \$4,875. 213-377-9842.

**Refrigerator**, Westinghouse, 3 yrs. old, 18 cu. ft., frost free, copper, \$200. 213-454-2675.

**Aircraft Engine**, Allison V12-1710, n.t.s.o., \$500. 213-371-2531.

## Miscellaneous For Sale

**Motorcycle**, 1966 Honda Super Hawk, 32 h.p., 338 cc, \$275. 213-547-4141.

**Water Bed** w/frame, queen size, \$25. 213-370-9037.

**Camera**, 35 mm, Canon IV-S2 w/50 mm f 1.8 lens & 135 mm f 3.5 lens, case & Universal viewer w/case, \$110. 714-842-2649.

**Ham Station**, Galaxy V transceiver, remote VFO, spkr. console, extras, \$225. 213-860-3793.

**Strobe**, Honeywell, 65-D, \$30. 213-320-8845.

**Trunk**, old, \$10. 213-672-1090.

**Trailer Hitch**, 550 lb. Tru-Pivot equalizer w/sway control, \$35. 714-839-6959.

**Play Set**, child's, \$20. 213-321-2674.

**Pup**, afghan, male, 14 mos. old, champ. sired, \$200. 213-679-8307.

**Engine**, 327 Jeep, American Motors V-8, 40,000 mi., complete, \$200. 213-671-3512.

**Bedroom Set**, king-sized, walnut, box springs & mattress, \$275. 213-370-6348, 213-325-0788.

**Dryer**, elec., G.E., white, \$75. 714-637-7662.

**Used Brick**, 10¢ ea. 213-376-4831.

**Pool Table**, slate, access., \$450. 213-675-5449.

**Panels**, fiberglass, neutral, 424 sq. ft., \$20. 213-833-6045.

**Stove**, Kenmore elec., \$25. 213-370-6400.

**Telescope**, 3 1/4" reflector, 1/2" eyepiece, adjust. Barlow lens, \$35. 213-645-4697.

**Motorcycle**, 1970 Triumph 650, 3,800 mi., \$900. 213-329-0086.

**Cassette**, car stereo player, recorder, 8 tapes, 2 spkrs., \$85. 213-672-1693.

**TV Set**, black & white, table model, \$15. 213-377-4623.

**Sofa**, 8', blue, \$75. 213-377-8255.

**Surfboard**, 8' Jacks, w/car rack, used twice, \$75. 714-879-2569.

**Picnic Table**, redwood, benches, umbrella, w/stand, \$20. 213-671-1617.

**Wonder Horse**, adjust., \$8. 213-379-1873.

**Snow Tires**, 2 G70-14", Gates Commando Special, \$60. 213-672-8462.

**Dinnerware**, Havaland Paradise design, 8-pc. setting, many extras, \$400. 213-831-9589.

**Drafting Machine**, Post, True Line, 24", \$60. Box 701.

**Travel Trailer**, 1971, 22' Roadliner, fully self-contained, 12,000 B.T.U. roof-air, Honda rack, \$3,300. 213-542-4624, 213-370-5020.

**Pups**, Weimaraner, 6 wks. old, male & female, \$10 ea. 213-455-2369.

**Movie Outfit**, Bell & Howell, 8 mm, \$75. 213-679-6982.

**Typewriter**, elec., Royal Empress, \$125. 213-371-0645.

**Climber**, children's, \$10. 213-675-8813.

**Surfboard**, 7' Rick, \$20. 213-374-8608.

**Motorcycle**, 1969 Yamaha, AT-MX, 125 cc, gear box o/hailed, \$300. 213-679-4863.

**China Cabinet**, Drexel, mahogany, 4' x 6', curved glass front, \$250. 213-923-9957.

**Umbrella Tent**, w/side rm. & pole, w/2 cots, \$49. 213-324-9491.

**Carnival Game**, fishing pond, 6-pl., \$125, other games. 213-861-6404.

**Boat**, fiberglass, & trailer, elec. gears, 1961 mod., \$100. 213-671-7127.

**Oven**, Radarange, Amana, 2 mos. old, \$300. 213-675-7938.

**Outboard Motor**, Evinrude, 9 1/2 h.p., never used, \$450. 213-457-9600.

**Record Player**, stereo, auto. w/cover, McDonald, \$35. 213-327-4267.

**Refrigerator**, Westinghouse, white, 13 cu. ft., \$50. 213-679-5212.

**Rocker**, swivel-type, black naugahyde, \$25. 213-675-1000.

**Dining Table**, maple, 6 chairs, \$100. 213-375-9553.

**Divan**, \$75, other items. 213-375-1756.

**Tires**, 4 Firestone, whitewall, E-70-14 wide ovals, \$80. 213-675-2514.

**Camper Shell**, Gem top, fits 1965, '66, '67 El Camino, \$150. 213-377-3552.

**Sofa**, 6', matching chair, curved Lawson style, \$65. 213-670-2564.

**Exercise Bike**, \$22. 213-326-5731.

**Counter Top**, Formica, 2'x11', \$10. 213-645-7972.

**Sailboat**, 14' Super Satellite, trailer, boat cover, many extras, will furn. hitch, \$800. 213-392-1447.

**Airplane**, 1948 Stinson 108-3 station wagon, hvy. case Franklin 165, 500 smoh, gyro panel, Mark II & Alpha 200, \$4,000. 805-947-1026.

## Miscellaneous For Sale

**Washer**, Maytag, & dryer, yellow, \$300. 213-377-7065.

**Davenport**, colonial, spice tweed, \$65. 213-326-3135.

**Cocktail Table**, 2 end tables, glass tops, \$125. 213-644-3922.

**Orchid Collection**, w/greenhouse, 8x10, \$75. 213-842-1405.

**Motorcycle Helmets**, orange or yellow, med. size, \$10 ea. 213-326-0895.

**Bicycle**, Stingray, \$25. 213-325-1190.

**Ski Boat**, 16' 70 h.p. Merc., lge. whl. trailer, \$995. 213-323-3801.

**Calculator**, Curta Mk II portable, 15-digit accum./multiply reg., case, manual, \$100. 805-495-7550.

**Motorcycle**, 1969 Bultaco, 250 cc, Pursang Mx, \$450. 213-769-7513.

**House**, 2-bdrm. & small rm., lge. lot, \$24,000. 213-374-2076.

**Mobile Home**, 2-bdrm., awning, stor. shed, 10'x55', in Gardena, \$3,995 furn., \$3,495 unfurn. 213-532-7652.

**House**, 2,500 sq. ft., 4-bdrm., 3 bath, lge. living-dining rm., f/place, fully landscaped yd., Mesa P.V., \$64,500. 213-377-2881.

**House**, 3 bdrm., 1 1/4 baths, central a/c, 27'x12' alum. covered patio, many extras, \$32,950. 714-521-0206.

**House**, in Hollypark-Gardena, 3-bdrm., 2 baths, bltins, attach. 2-car gar., covered patio, \$28,500. 213-323-8213.

**Acreage**, 2 1/2 acres, 2 mi. from Crystalline Country Club Estds., near Pearlblossom Hwy., \$11,500. 213-430-1952.

**Lot**, improved, Big Bear Pines, \$750 dn., 7 1/2% on bal., \$1,995. 213-325-5609.

**Mobile Home**, 10x50 2-bdrm., cpts., patio cover, stor. shed, in four-star park, \$3,000. 213-925-1934.

**House**, 2 yrs. old, 2-story, 4-bdrm., 2 baths, f/place, bltins, cpts., dps., Cerritos, \$32,500. 213-860-3022.

## Wanted To Buy

**Power Edger**, not over \$25. 213-679-0888.

**Bricks**, new or used, need approx. 650. 213-675-6206.

**Motorcycle**, any make or model, reasonable. 213-532-6687.

## Free (To Be Given Away)

**Dog**, 1 yr. old, shots, brown & white female, house broken. 213-756-1812.

**Kittens**. 213-644-2840, 213-376-9054.

**Dirt**. 213-379-3153.

## Rentals Offered

**Cabin**, 2-story, Big Bear Lake, sleeps 12, f/place, all-elec., boat dock, \$125 wk. 714-893-0410.

**Camper-Pickup**, 1971 Ford, sleeps 6, \$100 wk. & 5¢ mi. 714-544-0730.

**Cabin**, Big Bear Lake, Moonridge, 3-bdrm., 2 baths, kit., utens., f/place, family only, \$125 wk., \$50 wk/end. 213-326-7232.

**Cottage**, Ocean Bch., San Diego, near Mission Bay, \$80 wk. 714-826-2007.

**Vacation Home**, Bass Lake, \$150 wk. 213-374-3702.

**Vacation Home**, Lake Arrowhead, 3-bdrm., 2 baths, walk to lake, \$140 wk., \$65 wk/end. 213-377-3817.

**Mountain Home**, Big Bear City, 2-bdrm., bath, f/place, furn. incl. linens, \$35 wk/end, \$100 wk. 213-823-1788.

**Vacation Cabins**, Idyllwild, 1 & 2 bdrm., stream, patio, f/place, \$30-\$40 wk/end, \$70-\$90 wk. 213-868-8040.

**House**, on 5 acres, Big Bear Lake, 2-bdrm., f/place, furn., all utils., sleeps 8, \$100 wk., \$45 wk/end. 213-325-8267.

**Cabin**, Lake Arrowhead, family only, \$125 wk., \$55 wk/end. 213-831-1745.

## Rentals Offered

**Apt.**, 2-bdrm., unfurn., bltins, cpts., dps., \$145. 213-426-4060.

**Cabins**, Lake Gregory & Crestline, sleeps 6, \$65 wk. 213-821-8150.

**Cabin**, near Arrowhead & Running Springs, sleeps 4 or 5, \$35 wk/end, \$95 wk. 213-370-7105.

**Cabin**, Lake Arrowhead, no. shore, 200 feet from lake, \$125 1 wk., \$200 2 wks. 213-375-2255.

**Motor Home**, 1971 Pace Arrow, 20', sleeps 6, a/c, self-contained, ins., \$150 wk., \$50 wk/end. 714-846-1858.

**Apt.**, 1-bdrm., unfurn., in Redondo Bch., cpts., dps., bltins, gar., 1 mo. free rent, \$150. 213-831-0453.

**Apt.**, 1-bdrm., cpts., dps., range, oven, close to Northrop, unfurn., \$130 mo. 213-325-5705.

**Cabin**, Big Bear, on golf course, sleeps 12, \$40 wk/end, \$100 wk. 714-595-3968.

**Condominium**, Palm Springs area, furn., 2-bdrm., pool, \$100 wk., \$60 wk/end. 213-327-8994.

**Duplex**, unfurn., upper, 2-bdrm., walk to Northrop, \$155 mo. 213-676-1985.

**Cabin**, Big Bear City, 2-bdrm., 1-bath, 3 yrs. old, \$40 wk/end. 213-320-6486.

**House**, 2-bdrm., guest rm. in rear, lge. fenced yd., dble. gar., bltin stove & refig., f/place, close to Aircraft Div., \$250. 213-676-6390.

**Studio Apt.**, 2-bdrm., 2-bath, sub. gar., adults, \$225 mo. 213-670-6084.

## Rentals Wanted

**Concrete Mixer**, small, for 2 mos. 213-375-1685.

**House**, 3-bdrm., fenced yd. & gar., must be close to El Segundo or Santa Monica high schools, will lease. 213-823-7701.

## Child Care

**Child Care** offered, my home, El Camino College area. 213-676-6502.

## Personals

Thank you for your thoughtfulness & kind expressions of sympathy at a time when it was deeply appreciated. BERL PIERCE & HELLEN TOTH.

Thanks to everyone at Northrop & NRC for the cards, calls & visits during my recent eye surgery. J. R. MELTON.

To all my friends at Northrop thank you sincerely for the cards, flowers & condolences during the illness & demise of my brother, Vernon. W. H. BUSTER.

**Ride Wanted**, 8 a.m.-4:42 p.m., from Raven-spur Dr., Palos Verdes, to Plant III, Aircraft ext. 2175.





JOHN EVANS, vice president, Manufacturing, right, presents 20-year service award to Lauren Persons, manager, Manufacturing Engineering.

### SERVICE AWARDS FOR JULY

## Persons Marks 20 Years

Lauren Persons, manager, Manufacturing Engineering, tops the July list of Ventura Division recipients of service awards as he marks 20 years with Northrop.

Receiving 10-year service awards were Della Vickers, Norma Cretal, William Shehan, Lou Dumond, Harold Ort and William Carr.

Five-year recipients were Ronald Arnsperger, Gary Bucsis, Marilyn Wilson, Ann Kent, Leslie Cole, Vinton Hunnicutt, Wyne Dunn, Paul Scott, William Walstrum and Dick Small.

### ROLLIN LEMM ELECTED COUNCILMAN

Rollin Lemm, manager, Advanced Systems, Airborne, has been elected councilman for a two-year term in the Pacific Missile Range Section of the American Institute of Aeronautics and Astronautics.

New officers for the PMR section were installed recently at a dinner meeting.



MRS. DAVID COE and children, Katelyn and Kevin.

## Conejo Valley Women's Club Selects Mrs. David Coe as Junior Citizen

Mrs. David Coe, wife of the Ventura Management Club president, has been named Junior Citizen of the Year by the Conejo Valley Junior Women's Club.

Mrs. Coe has been active in Conejo Juniors since it was formed over six years ago, hold-

ing a variety of offices, including president.

She also has been active in PTA, Red Cross, YMCA Indian Guides, March of Dimes, and the Cancer Crusade.

Mr. and Mrs. Coe have three children, Brian, 6; Kevin, 4; and Katelyn, 3.

## Piantino Wins Award With Mama's Recipe for Squash

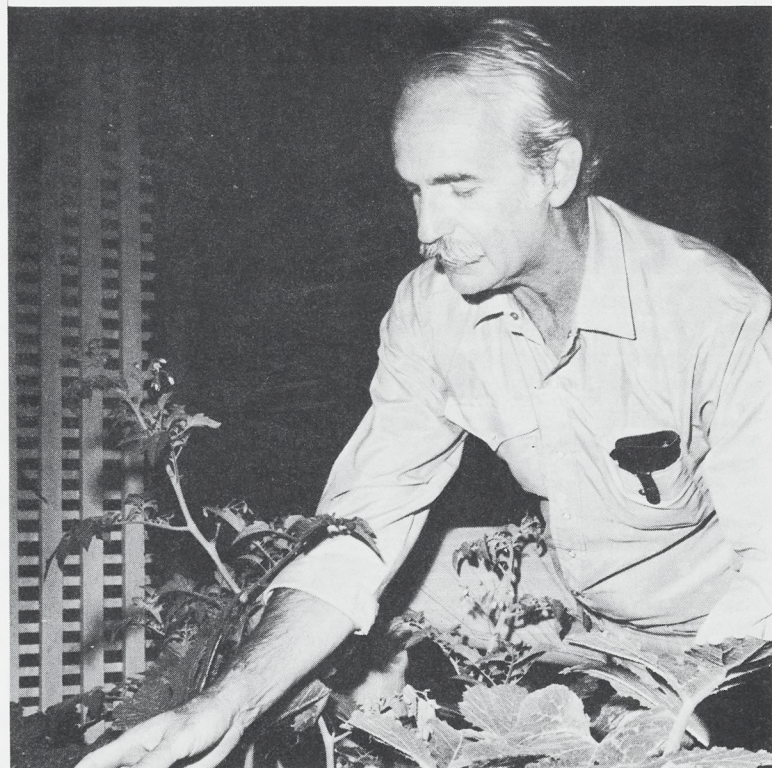
Raising zucchini squash is a hobby of Delio Piantino, inventory control analyst, Ventura. But so is cooking. And the combination paid off in a first prize award in the vegetable and salads category of a recently concluded Thousand Oaks News-Chronicle cooking contest for men.

Mr. Piantino's specialty was a

zucchini casserole prepared using fresh produce from his garden.

Said Mr. Piantino, "My wife, Rose, kept after me until I entered the contest, so I attempted to duplicate the stuffed vegetables my mother used to cook in Turin, Italy."

Contest winners received gift certificates redeemable at local grocery stores.



DELIO PIANTINO checks zucchini squash in his home garden.

## Tickets For NRC Annual Picnic At Ranch to Go on Sale August 15

Tickets for the Ventura Division NRC picnic will go on sale approximately August 15, according to Dorothy Prychoda, picnic chairman.

The event is scheduled for Sunday, September 10 at the Calamigos Star C Ranch, Malibu, from 11 a.m. to 5:30 p.m.

Bob Baker's Marionettes will

be the feature entertainment attraction with clowns, rides, balloons, games and contests for young and old.

NRC area representatives from whom tickets may be obtained include Judy Eddy, Betty Reinisch, Mary Ann Cox and Dorothy Prychoda.

## VENTURANS WIN SECOND IN BRIDGE

Two teams representing Northrop Ventura, consisting of Bob Tracy, Bob Feakins, Bob Calhoun, Ron Huss, Terry Chin, Yee Young, Cal Peterson and Betty Reinisch, went to the Ambassador Hotel to place in the commercial companies team games during Bridge Week on July 5.

The following evening they all returned for the commercial companies pairs with Tanet Koopman and Doc Powell. Results

showed a first over-all tie for Cal Peterson and Betty Reinisch. A second for Bob Feakins and Bob Tracy in their section, and a third in their section for Bob Calhoun and Ron Huss, and Terry Chin and Yee Young.

Final results gave Northrop Ventura a second place among companies competing.

The next evening game is set for September 23 and will be an individual championship game.



# NORTHROP NEWS

VENTURA DIVISION EDITION

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## 'Lights Out' Suggestion Earns \$446

"Gene Colborn, Autoclave, simply suggested, turn the lights off at night and save on the electricity bill," according to Walt Claycomb, Suggestion Award coordinator, "and received an award of \$446 for his seemingly obvious idea.

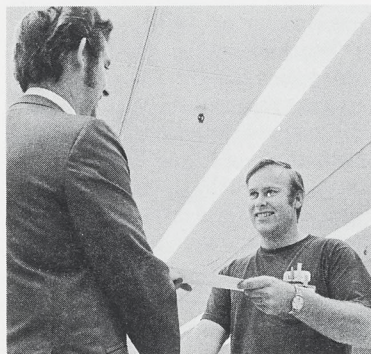
"Our Facility Engineering organization reported that previous studies on this subject proved it to be uneconomical to turn lights off, however, Gene's suggestion prompted another study and this time—lights out."

### Study Results

The study result differences, reported Facilities, were due primarily to the fluorescent bulbs we are now using combined with the present electrical rate structure and current shop and maintenance work schedules.

In 17 months, Mr. Colborn has placed 14 suggestions in Ventura Division suggestion boxes resulting in \$700 total awards.

Other recipients of awards for their cost savings ideas were: Delio Piantino, \$62; John Iwanzyk and Terry Baker, \$50 each; Vera Bailie, \$46; Dewey Herron, \$25; Dick Martin, \$20; and Norris Drewery, \$21. Receiving \$10 awards were Jack Landis, Dwight Finuf, Les Goodwin, Paul Barbakow and John Green.



A SUGGESTION to turn lights off at night earned Gene Colborn, right, \$446. Presenting check is Glen Estes, manager, Final Assembly and Paint. Mr. Colborn has earned \$700 total awards for 14 suggestions.



SAFETY COMMITTEE members are, left to right, seated, Dick Warner, Clark DeSpain, Harry Parker, Rex Fairless and Marian Robinson. Standing, left to right, Gary Bucsis, S. L. Ashworth and Charles Simmers.

## Employee Participation Drive For New Ventura Dollar Donors to Begin Soon

Ventura Division Dollar Donors is planning a drive for new participants through payroll deductions and contributions, according to Johnny Via, president.

"Most of our efforts are never publicized for obvious reasons," said Mr. Via, "but as high as 50 per cent of our assistance dollars have been devoted to helping Northrop Ventura employees who, because of layoffs or other problems, have needed aid.

"We are too inclined to think only of the Salvation Army, Heart Fund, L.A. Children's Hospital, Boy and Girl Scouts

and the YMCA when we think of programs to assist the needy," he added. "Dollar Donors does contribute to all of those groups, but we are constantly on the lookout for our own people who seriously need help."

In addition to contributions, Dollar Donors each year purchases a block of Conejo Round-up tickets for distribution to underprivileged children in the area.

Other Dollar Donor officers are Leo Karas, vice president, Bob Prieve, treasurer and Bernie Sklar, secretary.

## Northrop's Safety Plan Equals OSHA

Making the new Federal Occupational Safety and Health Act (OSHA) succeed is everybody's business, according to Harry Parker, chairman, General Safety Committee.

"While Northrop has always had a progressive and effective occupational safety and health program, OSHA now requires all companies to provide safe and healthful working conditions for their employees," Mr. Parker said.

"However, the safest possible working conditions may become ineffective unless each employee rigidly observes prescribed safety rules and operating guidelines for his work environment," he added.

To date, Ventura facilities have been surveyed for safe noise levels, adequate exits and signs, fire extinguishers and other conditions governed by OSHA.

Corrective action has been taken wherever indicated, according to Mr. Parker.

The committee, which meets monthly, includes Rex Fairless, safety engineer; Charles Simmers, chief security officer; and Clark DeSpain, facilities.

Subcommittee chairmen include Al Binsacca, special materials and devices; Paul Potter,

(See OSHA, page 6)

## S.F.I.M. VISIT

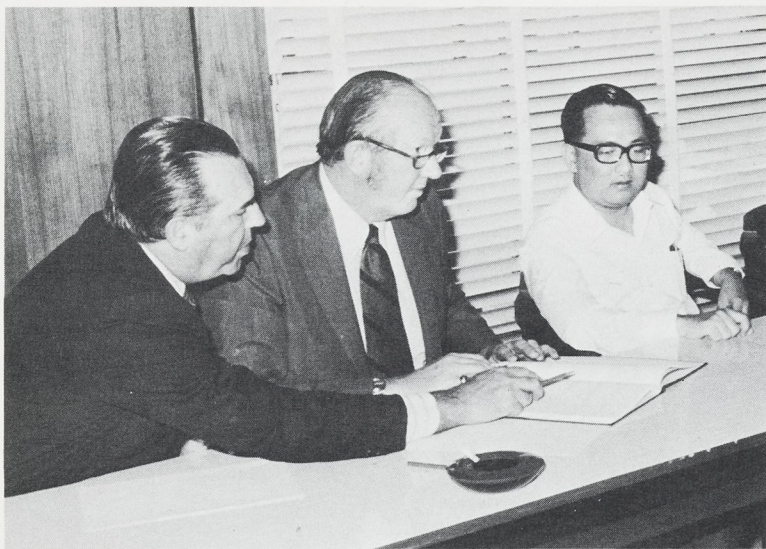
Ventura Division was host to representatives of the Societe de Fabrication de Instruments de Mesure, Paris, France, last month.

G. C. Grogan, Jr., vice president, Product Development; P. W. Lawrason, program manager, Aeronautical Target Systems; and R. A. Flink and S. T. Burke, International Marketing, conducted a briefing on Northrop Corporate and Ventura product lines for J. Delaunay, manager, Navigation Research and Development, S.F.I.M., and R. De Bras, chief engineer, Auto Pilot Systems, S.F.I.M.



THE NRC FAMILY PICNIC will be held in this beautiful setting at Calamigos Star C Ranch on September 10. See NRC representatives for tickets.





**JACK BAILHE, NORTHROP REPRESENTATIVE in Thailand, left, and Glenn R. Lord, president of Northrop Airport Development Corp., center, meet with Niam Tong Dow, permanent under-secretary of Singapore's Ministry of Communications, during the signing of a \$30 million major upgrading project for Singapore International Airport.**

## NADC to Design Upgrading For Airport in Singapore

Northrop Airport Development Corp. has been awarded a \$1.2 million contract to plan and design the \$30 million major upgrading of Singapore International Airport.

Mr. Yong Nyuk Lin, the government's minister for Communications said in Singapore that

### San Diego Office Has Anniversary

Northrop's Ocean Engineering office in San Diego celebrated its first birthday July 13. The office was established in July 1971, under the management of W. B. Buckbee, to support Northrop Services Inc.'s Deep Submergence Systems support of the U.S. Navy in San Diego.

The Ocean Engineering office supports the Navy in two major programs. One is the Deep Submergence Rescue Vehicle which the Navy is building for submarine rescue work at depths up to 5,000 feet. The second major program is the Deep Dive System, Mark 2 which is concerned with developing techniques and equipment for saturation diving.

Members of the Ocean Engineering office, in addition to Manager Buckbee, are: Dolly Atherton, secretary; W. B. Bennett, C. P. Buckley, J. Drucker, R. F. Flynn, Daphne Hospins, T. S. Lee, J. C. Lillywhite, C. B. Linton, R. Quinn, E. A. Smith, J. A. Vaughn, R. K. Viertel, L. M. Wearda, R. R. Wimmermark and D. R. Paradise.

NADC was selected after a competition in which 10 of the world's leading airport consulting firms were invited to submit proposals.

The contract covers the immediate phase development of the airport. NADC will update and refine the existing master plan, and prepare detail designs and specifications for new passenger terminal, new cargo terminal, new fire station and a hangar for jumbo jets, as well as associated ramp areas.

NADC, with headquarters in Washington, D.C., has been involved during the past year in various types of airport planning, design and feasibility studies at numerous locations, including St. Louis, Bangkok, Tehran, Taipei, Djakarta and two sites in the U.S. Trust Territories of Micronesia.

NADC was selected last month by Thailand's National Executive Council to negotiate a contract for the development of a new international airport in Bangkok. It is estimated that the first phase of this new international airport will be completed in five years and will cost approximately \$100 million.

Glenn R. Lord, president of NADC, said the award of prime management responsibility for the Singapore Airport to Northrop Airport Development Corp., after a worldwide competition, was added recognition of the company's ability to apply proven systems analysis techniques to this field.

## Northrop Export Potential Praised by Aviation Week

Aviation Week Magazine, in an editorial on the problems of declining aerospace exports, praised Northrop's programs aimed at high export potential.

The magazine pointed out that aerospace sales had been one of the principal elements in maintaining a positive U.S. balance of trade during the past decade.

"This year," Editor Robert Hotz wrote, "aerospace exports will begin a drastic decline that cannot be arrested or reversed without a drastically revised government policy . . . Only new and effective policies quickly forthcoming will allow the inherent strength of U.S. high technology to be decisively felt in the international marketplace . . ."

As an example of what must be done to reverse the declining trend, Mr. Hotz said, "We must provide more preceptive vision and more effective support in early research and development phases aimed at products or product variants with high export potential. The Northrop F-5 and P-530 programs are excellent examples of what can be accomplished in this area."

Foreign sales of Northrop's new F-5E International Fighter are expected to have more than a \$1.5 billion impact on the U.S. balance of trade over the life of the contract, Northrop President Thomas V. Jones reported when the F-5E Tiger II was rolled out in June.

### Olson Will Make Puerto Rico Study

A noise contour study to determine the effects of airport noise pollution on a proposed hotel site in San Juan Puerto Rico will be made by Olson Laboratories' Acoustical Engineering Department, according to Gordon Bricken, manager of the department.

The contract, with PFZ Properties, will relate to Vacia Telega, a 3,000-acre development to replace the present San Juan hotel district. The contour study will show the impact and density of noise pollution from San Juan International Airport as it affects the proposed development area.

### ORDERS BACKLOG RISES

## Northrop Reports Earnings

For the six months ended June 30, 1972, Northrop Corporation reported net income of \$5,081,000 compared with \$6,557,000 for a comparable six month period of 1971. The earnings were equivalent to \$1.13 per primary share compared to \$1.38 for the comparable period of last year. On a fully diluted basis, the earnings were \$1 per share compared with \$1.18 last year. Northrop changed from a fiscal to a calendar year basis in 1972.

The company's current order backlog is approximately \$734 million versus \$490 million at a comparable point in 1971.

Six months net sales for the aircraft, communications, electronics, and construction firm amounted to \$267,626,000 compared with \$282,208,000 for the first half of last year.

Net earnings for the three months ended June 30, 1972 were \$2,728,000 compared with \$3,852,000 for the same period last year, and \$2,353,000 for the previous quarter of 1972. This was equivalent to 61 cents per

primary share against 82 cents in the second quarter of last year and 52 cents in the first quarter of 1972.

Fully diluted earnings were 54 cents per share against 69 cents a year ago, and 46 cents in the first quarter of 1972.

Net sales for the second quarter totalled \$154,320,000 compared with \$138,570,000 last year, and \$113,306,000 for the first quarter of 1972.

"We believe the substantial increase in order backlog is an indication that the company's overall business prospects are on a substantial upturn," Thomas V. Jones, Northrop president said. "The indications are that the increase in earnings from 52 cents per share in the first quarter to 61 cents per share in the second quarter represents the beginning of a new trend," Mr. Jones said.

**IS IT NEWS?  
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HAWTHORNE**



# Microminiaturization Packs Circuits Into Small Wafers

Dr. Klaus Schuegraf, the lead scientist in the Microelectronics Laboratory at the Northrop Corporate Laboratories, pointed to a thin disc of silicon measuring 1½ inches in diameter.

"That single piece of silicon," he stated, "contains 500 identical integrated electronic circuits and each complete circuit is comprised of a large number of transistors, diodes, capacitors and resistors. Before the advent of microminiaturization, we would have needed a storage space as large as a four-drawer filing cabinet to hold the vacuum tubes and wiring needed to construct just one of these microcircuits."

The large-scale integrated circuits (LSI) described by Dr. Schuegraf are frequency synthesizers which are being fabricated as laboratory test devices to determine feasibility of advanced communication concepts developed by other scientists in the Information Sciences Laboratory.

## One of Many

The frequency synthesizer is but one of many LSI circuits being designed and fabricated in the Microelectronics Laboratory. Other projects include prototype development of circuitry for the Mark III Voice Warning System and development of a quartz accelerometer. Both are products being manufactured by the Electronics Division.

Microminiaturization allows the design of electronic systems to develop more sophisticated, versatile and reliable equipment than was possible a few years ago

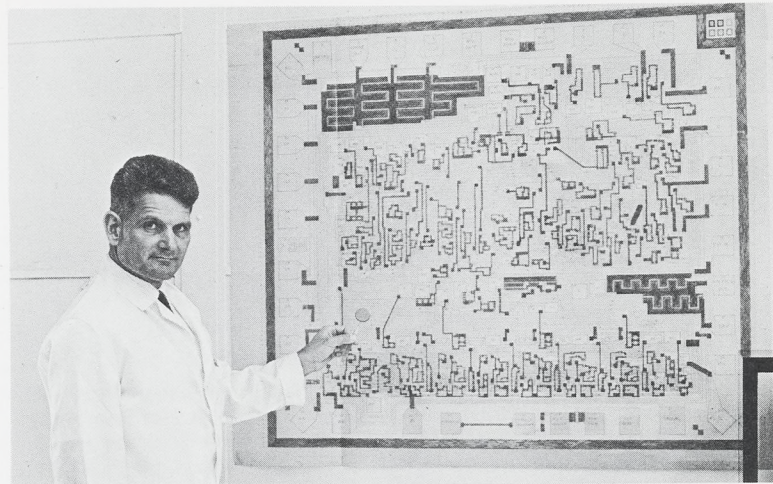
while reducing volume, weight, power and cost at the same time.

Electronic equipment presently designed with LSI circuitry would have been too bulky to carry in a plane and too expensive and unreliable to build using vacuum tubes or discrete solid state components.

The final product, the LSI circuit, is so small that it must be viewed through a microscope during wiring and testing. However, these circuits begin as large layouts drawn by design engineers or by computer aided technique. These layout drawings are then photographed and reduced to 1/100 of the original size. This photo-reduced "mask" is then rephotographed through a high resolution microscope lens and reduced another 10 times, to arrive at the final mask which is about the size of a pinhead. This small mask is then "step and repeated" (exposed, moved, exposed) over another photographic plate which is the same size as the silicon wafer. Then this mask which represents one LSI circuit is used to make a final mask which has 500 of these same circuits. It is this technique which enables the laboratory to make 500 identical LSI circuits on one silicon wafer.

To fabricate an LSI wafer, four to five different masks are needed. Each mask must be overlapped with the other with exacting precision and then photographically printed on the silicon wafer. With 500 identical circuits and 1,000 to 2,000 components in each circuit, the final 1½ inch silicon disc will contain about one-half million electronic components.

Silicon is used as the material to make microcircuits because it is a semiconductor (not a good



DR. SCHUEGRAF shows layout drawing which will be reduced to 1/100th of actual size.

conductor—not a good insulator) which can be changed into a conductor of electrons by adding small amounts of impurity atoms at the places you want conduction to occur. The impurities are generally boron or phosphorous atoms depending on the transistor you want to make. The impurities are diffused into the silicon in a high temperature furnace. Each impurity spot becomes a transistor on a diode and they are connected together to form a circuit by evaporating thin lines of aluminum between the components.

## Testing

After the circuits are made, they are tested. All 500 will not be good circuits. The good ones are cut out of the wafer and placed in individual packages or cans. The lead wires and packages are often many times larger than the circuit they serve. Aluminum lead wires are bonded to the microcircuits using ultrasonic waves.

It takes about a week to fab-

ricate a single wafer, after the work of making the masks has been completed. This may seem like a long time, but, it would take a single electronic technician working eight hours a day without breaks or holidays more than 11 years to do the same job. This figure assumes that it would only take him one minute to wire each of the one million components which are fabricated on the 1½ inch piece of silicon.

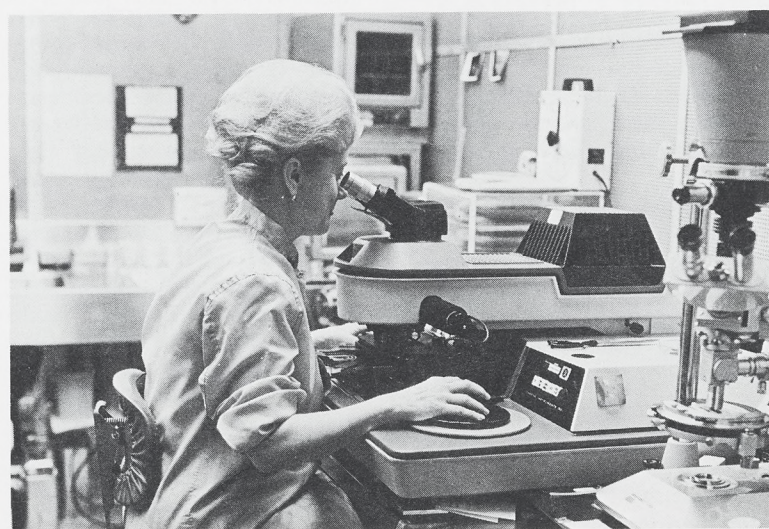
The Microelectronics Lab is continually reviewing ideas for new LSI circuitry which might have a significant impact on the sales of Northrop electronic systems. Further information can be obtained regarding the capabilities of the laboratory by contacting Dr. Schuegraf and Dr. Robert Malm, director of the Information Sciences Laboratory at the Northrop Corporate Laboratories.

## Massey Retires; Merrell Moves to Northrop Pacific

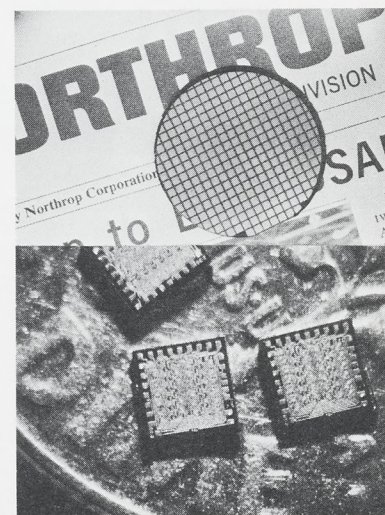
Loyal Massey, plant manager, Northrop Pacific, Inc., has retired after 30 years with Northrop. He will be succeeded by Frank Merrell, former manager, Industrial Engineering at the Electro-Mechanical Division.

Northrop Pacific, located in Long Beach, California, builds aircraft flooring and stringer clips for commercial aircraft, including the Boeing 747 and 707, and is also involved in the new Northrop F-5E Tiger II program.

The company was founded as a Northrop subsidiary in 1967 and has been guided since its founding by Mr. Massey. His successor, Mr. Merrell, is a 17-year Northrop veteran.



ERNA DILLARD, processing technician, uses microscope to assemble minute parts of the integrated circuit.



THE TINY size of the wafer is shown in comparison to a page of the Northrop News, top. Below, "chips" representing a single square each in the wafer above rest on the edge of a dime to show the minute size of the finished integrated circuit.





**EIGHT GRADUATES** of the first High School Involvement Program (HIP) are returning to school after working full-time at Northrop during the summer. Shown above, during a discussion of HIP are Ralph Carey, instructor coordinator; Linda Garrett, Dana Grant, Karen Thomas, Ray Nadeau, instructor; Dwayne Day, Jackie Johnson, and Lourdes Medeles.

## POSES SECURITY PROBLEM

### Airlines' Baggage Search

As a result of recent hijackings, several airlines are not permitting hand-carried baggage, briefcases, or packages on their flights; or they are requiring a complete search of all items, including the opening of any packages. This must be considered when the hand-carrying of classified material is anticipated, since such packages may not be opened nor their contents be disclosed to unauthorized persons.

Additionally, such material must remain in the individual's personal custody at all times and cannot be "checked" separately or inside their baggage.

To avoid inconvenience or costly delays in such instances, it is suggested that, if at all possible, required classified documents or hardware be mailed in advance of your trip.

If this is not feasible, contact the airline with which you intend to travel, determine their current policy, and if necessary, make special arrangements with the reservations supervisor.

### Holiday Coming

Another long holiday weekend is in store for Northrop employees when Labor Day, Monday, September 4, will be observed as one of the company's paid holidays.

The next scheduled holiday will be Thanksgiving Day, which will be observed this year on Thursday, November 23. It will be followed by the traditional long Northrop Christmas holiday.

## Northrop Hams Take Part In Relay League Field Day

Radio hams from the Aircraft and Electronics Divisions took part in the 1972 Amateur Radio Relay League Field Day, according to Dick Mirko, NRC Radio Club vice president.

The ARRL Field Day consists of a contest between nationwide clubs and amateurs to set up emergency-powered remotely located radio stations and competing to obtain the greatest number of contacts in a given competitive class.

Participants and their call letters were Charles Jensen, WB6-BZJ (field day chairman); Gerry Roberts, K6YPT; Doug Marston,

WB6JCD; Don Moore, WA6-BJJ; Spud Monahan, K6KH (station custodian); Bob Cobb, W6-CFM (club secretary); Mr. Mirko, K6HRT; Don Fletcher, W6LYY; Stu Carp, WA6NLQ; Jeff Kincaid, WN6BIL; Dave Wagner, WN6BYP; Jim Jones, WB6WWU (club president); Pat Fletcher, XYL W6LYY; Bill Horn, WA6STM and Stoddard Jennings, WB6ARV.

The participants reported an outstanding success in making contacts and on the basis of previous years feel that they will place in the top 20 per cent when the final point scores are announced in about three months.



**HAMS WHO** joined in the ARRL's field day are, front, from left, Dick Mirko, Jeff Kincaid, Dave Wagner, Doug Marston, Jim Jones and Bill Horn. Back, from left, Pat Fletcher, Don Fletcher, Stu Carp, Bob Cobb, Don Moore, Charles Jensen and Gil Jones.

## NRC Commissioners Have Their Day

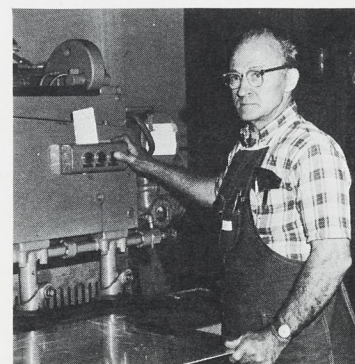
"For three hundred and 64 days a year the NRC commissioners work to assure the various clubs under their jurisdiction function smoothly, maintain the participation of their members, and offer some activity of interest to every employee. But the 365th day is reserved as an evening of recreation for them."

These words from Don Kohler, Aircraft Division Industrial Relations representative, describe the annual dinner dance for NRC commissioners. This year it was held aboard the Princess Louise.

Marie Tully, NRC manager, Aircraft Division, said, "These dinner dances are one way of thanking the people who spend so much of their spare time for the club."

Aircraft and Electronics Division employees interested in work-

ing with NRC are invited to call ext. 2486 at Aircraft Division and ext. 425 at Electronics Division.



**FRANK WELTE, SR.**, is Northrop Architectural Systems' senior employee. Mr. Welte, shown here operating a shear in the brake shop, recently marked his 32nd year as a machine operator with Northrop.

## Who's Who in West Honors Leibert For His Work With Retarded Children

Peter Leibert, manager, Machinery Performance Monitoring, Electro-Mechanical Division, has been included in the 1972-73 edition of Who's Who in the West, an exclusive listing of outstanding professional people in the western section of the United States.

Mr. Leibert was included in the listing because of his work with the California Association for the Retarded. He has been working with the association for 12 years, and was recently elected first vice president.

The association is a major sponsor and supporter of planning, legislation and public actions that permit a closer approach to normalization for the

retarded of all ages. This principle of normalization approaches the development of the retarded by integrating them into the normal educational and social environment.

This practice is fast replacing older methods in which the retarded were treated as unusual or special cases and were isolated from the adaptive, motivational and learning influences of normal society.

In his new office, Mr. Leibert will be a principal leader in the association's legislative and public information programs for extending and maintaining the principle of normalization throughout the state.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Cadillac**, 1968, Fleetwood Brougham, stereo, Cruise Control, extras, \$2,750. 213-547-3746.

**Mercury**, 1971, Marq. Brghm., 4-dr. h/top, fact. air, many extras, \$4,200. 714-544-2261.

**Volkswagen**, 1970 Pop-top, tape, tent, extras, \$2,850. 213-323-9586.

**Chevy II**, 1966, h/r, auto., \$500. 213-598-3552.

**Mustang**, 1967, vinyl roof, h/top, auto., 289 4 bbl., p/s, \$850. 213-644-7613.

**Pickup**, Chev., 1966, 3/4-ton, & 10' o/head camper, fully equipped, \$2,800. 213-675-3254.

**Mustang**, 1969, a/c, mag whls., extras, \$1,500. 213-329-1861.

**Station Wagon**, 1967 Pontiac Tempest, V-8, auto., p/s, p/b, \$1,000. 213-832-6394.

**Chevrolet**, 1969, Malibu, p/s, r/h, \$1,700. 805-492-1155.

**Dodge Van**, 1972, Gypsy Conversion Camper, w/elec. reffrig., \$200 dn., \$5,800 bal. 213-635-9944.

**Buick**, 1962, Special, convt., runs good needs new top & paint, \$200. 213-375-5009.

**Rambler**, 1962, American, \$95. 213-831-9545.

**Chevrolet**, 1962, 2-dr., 75,000 mi., stick, \$275. 213-295-1750.

**Pickup**, 1962 Chev., 3/4-ton, 283 eng., 3-spd., Lazy Daze camper, \$1,500. 213-644-7040.

**T-Bird**, 1956, completely restored, \$2,000. 213-756-1812.

**Camper Van**, 1970 VW, recent eng. overhaul, \$2,200. 714-524-1376.

**GMC Bus**, rebilt. diesel eng., auto. trans. \$2,300. 213-370-3821.

**Chevrolet**, 1964 Impala, 4-dr. h/top, p/s, r/h, \$500. 213-322-3319.

**MGTF**, 1954, rebilt. eng., \$1,900. 213-288-3432.

**Chevrolet**, 1969 Chevelle SS, auto., p/b, p/s, a/c, 2-dr., \$2,150. 213-773-9680.

**Volkswagen**, 1966, r/h, \$795. 213-377-5003.

**Lotus Elan**, 1967 coupe, \$1,600. 213-376-9054.

**Ford Pickup**, 1956 1/2 ton, a/c, extras, \$1,100. 213-530-4709.

**Volkswagen**, 1968, camper, pop top & tent, \$1,850. 213-869-2673.

**Pontiac**, 1970 Le Mans Sport, p/s, auto., radio, \$2,800. 213-421-1300.

**Model A pickup**, \$1,500. 213-323-5746.

**Camaro**, 1967, 37,000 mi., auto., radio, 6 cyl., 4-track tape, \$900. 213-376-6806.

**Station Wagon**, 1967 Chevrolet Caprice, a/c, \$1,000. 213-530-3046.

**Cadillac**, 1958 Coupe Deville, 77,000 mi., \$900. 714-879-9736.

**Ford**, 1970 Torino, full pwr., take over \$112 mo. pymts., \$2,000 approx. bal. 805-259-1840, 213-361-7217.

**Datsun**, 1972 mod. 1200, 4-spd., console, r/h, \$1,595. 714-962-5166.

**Corvaire**, 1963 Spider, w/turbo charger, \$225. 213-679-0888.

**Chevrolet**, 1960, 2-dr., h/top, p/s, \$350. 213-671-5977.

**MGB**, 1967, wire whls., lug. rack, \$800. 213-821-3691.

**Comet**, 1961, \$100. 213-371-7940.

**Volkswagen**, 1957, camper van, w/1964 motor, \$425. 213-391-4636.

**Volkswagen**, 1968 Squareback, r/h, \$1,050. 213-375-9397, 213-375-2091.

**Volkswagen**, 1969, radio, \$900. 213-542-6745.

**Volkswagen**, 1972 Squareback, sunroof, radio, \$2,300. 213-542-5163.

**Opel Wagon**, 1970 Super, 28,000 mi., \$1,300. 213-370-9124.

**Volkswagen**, 1971, 28,000 mi., r/h, \$1,600. 714-821-1685.

**Lotus Europa**, 1971, low mileage, \$4,500. 213-759-7885.

## Miscellaneous For Sale

**Bunching Tables**, wedge-shaped, oiled walnut, \$35 pr. 213-545-7149.

## Miscellaneous For Sale

**Dining Room Set**, Danish walnut, table w/2 leaves, 6 chairs, lge. china & small cabinets, \$275. 213-541-3073.

**Drapes**, antique satin, 2 sets, gold, tangerine, \$45 ea. 714-531-6738.

**House**, N. Westchester, 4-bdrm., 1 3/4 bath, lge. covered patio & det. rumpus rm., \$42,000. 213-670-4702.

**Drum Set**, 5 incl. cymbals & cases, \$125. 213-377-2544.

**Minibike**, Taco, 3 1/2 h.p., new motor installed, \$65. 213-377-1074.

**Dining Room Set**, 6 chairs, hutch, table & chair pads, Early American cherrywood, \$300. 213-327-4478.

**Motorcycle**, 1967, 125 Jears Allstate, \$100. 213-631-2926.

**Motorcycle**, 1969 350 Honda, \$325. 213-372-6305.

**House**, 3-bdrm., 2 baths, paneled office, Hollypark, cpts., dps., btlins, f/place, \$31,950. 213-532-8072.

**Home**, Lake Havasu, 1,400 sq. ft., 2 1/4 acre view lot, fully furn., \$27,500. 714-637-0683.

**House**, 3-bdrm., family rm., 2 baths, w/w cpts., f/pl., btlins, air cond., patio cover, Anaheim, \$31,500. 714-776-9599.

**Console Stereo**, 8', Spanish Mediterranean, 1970 Continental Solid State Stereo Record & AM/FM radio, \$275. 213-941-3804.

**Tent**, 10 1/2 x 11 Continental style, nylon alum. frame, cases, \$75. 213-375-3790.

**Kittens**, 2 Siamese, 2 part Siamese and part Burmese, avail. Sept. 10, mixed, \$5; purebred \$10. 213-679-8095.

**Sofa**, convt. dble. bed, \$50, other items. 213-641-8355.

**Auto Radio**, Blaupunkt AM-FM-SW pushbutton, never used, \$90. 213-530-0379.

**Boat Trailer**, 1972 Vanson, 20', never used, \$500. 213-378-7676.

**Motorcycle**, 1966 650 Triumph TR6, \$850. 213-644-3587.

**Tires**, 4 Firestone Deluxe Champion tubeless, 6.45-14, \$30. 213-534-4068.

**Engine**, Hemi 52 Desoto, \$25. 213-674-9347.

**Ironer**, Ironrite, \$25. 213-291-0025.

**House Trailer**, 8' x 26' Bell-Air, 1 bdrm., bath, \$750. 213-330-8653.

**Boat**, 16' Runabout, big W trailer, 65 h.p. Merc. Couper Top, bait tank, extra gas tanks, \$1,000. 213-754-2020.

**Acreage**, Palmdale-Lancaster, 2 1/2 acres, easy terms, level roads, \$3,990. 213-376-6205.

**Dining Table**, white Italian Provincial, 2 leaves, 4 blue uphol. chairs, \$150. 213-347-4196.

**Houseboat**, 12x34, on Lake Mead, btlins, f/place, self-contained, sleeps 6, many extras, \$6,000. 213-634-5978.

**Camper Potti**, Corlon portable, w/chemical flush & holding tanks, \$50. 213-530-3432.

**Sail Boat**, 24' foot Dolphin 104, fully equipped, 6 bags of sails, many extras, \$7,500. 213-823-8642.

**Studio Couch**, w/cover, \$10. 213-645-7972.

**Boat**, 15' Nomad, & trailer, \$150. 213-328-7989.

**Wheels**, 2 chrome, slotted, near new tubeless tires, 15"x5.60" 4 ply, \$65. 213-833-3944.

**Cemetery Lot**, Inglewood Park in El Portal plot, 2 grave sites, w/dble. internment, \$1,000. 714-847-6455.

**Mini Bike**, Sears 3 1/2 h.p., kick start, \$125. 213-348-9928.

**China**, Noritake, old, 10-pc. place setting, extras, \$60. 213-372-7875.

**Piano**, Upright, modern refinished, \$180. 213-696-7529.

**Wedding Ring**, Marquise solitaire, white gold, Tiffany mounting, \$300. 213-644-3742.

**Typewriter**, IBM Selectirc, elite type, \$245. 213-254-3251.

**End Tables**, 2 walnut, \$10 ea. 213-541-3000.

**Dining Room Set**, table, 5 chairs, buffet, mahogany, \$150. 213-675-4239.

**Dress**, for mother of bride or groom, size 10, \$20. 213-371-2229.

**Coin Collection**, 51 assorted silver dollars, \$150. 213-644-6164.

**Accordion**, Contello, 120 bass, case \$85. 213-374-8645.

**Generator**, 900 W. Honda, 1971 mod., 6 hrs., \$200. 213-375-9811.

**Bicycle**, girl's 20" Take-A-Part, \$35. 213-676-3592.

**Airplane**, 1960 Comanche, 600 s.mo.h., auto flight, full gyro panel, IFR equip., \$11,000. 714-532-1510.

**Saddle**, leather, 16", \$90. 213-774-1900.

**Love Seat**, \$35. 213-372-0536.

## Miscellaneous For Sale

**Bedroom Set**, dble., box springs, mattress, night stand, extras, \$125. 213-320-9496.

**Stove**, 2-burner, hvv. duty Coleman, \$13. 213-323-7171.

**Drafting Machine**, Bruning w/scales, \$65. 213-645-1274.

**Home**, in Hawthorne, 3-bdrm., pool, 1 3/4 baths, lge. den, lanai rm., covered patio, dble. lot, \$61,500. 213-676-3589.

**Box Springs**, youth size, 15-yr. guarantee, \$35. 213-327-4176.

**House**, 3-bdrm., 2 baths, dps., cpts., lge. lot, block fence, \$29,900. 213-677-0182.

**Motorcycle**, Honda CB 450, 213-376-3998.

**Dishwasher**, white portable, auto., Lady Kenmore, used 1 yr., \$100. 213-377-0783.

**Tent Trailer**, Apache, \$250. 213-328-3306.

**Wall Phone**, oak, \$55, other items. 213-673-4322.

**Meat Freezer**, \$40. 213-939-8053.

**Rabbit**, & cage, feeders, \$1.50. 213-679-5177.

**Hide-A-Bed**, green tweed cover, \$15. 213-672-5649.

**Patio Set**, white metal 24" round table, 2 chairs, \$10. 213-371-5130.

**Aquarium**, 20-gal. Metaframe show tank, access., \$18. 213-722-6213.

**Motorcycle**, 1969 H.D. Sprint, SS, 350 cc, \$575. 213-833-7306.

**Camera**, Leica III G, Elmar, 50mm, access., \$150. 213-869-6508.

**Camera**, Pentax, many access., \$250. 213-376-5648.

**Tape Recorder**, Concord, auto., reverse, 776, \$135. 213-324-8618.

**Corner Hutch**, birch, 41" w x 24" d x 77" h., \$150. 714-637-4194.

**Lot**, California City, R-1, \$2,900. 213-293-5888.

**Motorcycle**, 1970 Yamaha 350, \$400. 805-492-4245.

**Welder**, Birdsell 190 AMP. AC, 50' ext. cord, w/welding equip., \$300 or sell sep. 213-322-5136.

**Engine**, 1964 361 Dodge, & fact. air cond. \$100. 213-375-8460.

**Outboard Motor**, 9 1/2 h.p., 1972 Evinrude, \$450. 213-457-3500.

**Cartridge & Tape Deck**, auto. FM, \$35. 213-325-2512.

**Dining Room Chairs**, 4, Mediterranean, \$8 ea. 213-860-3022.

**Motorcycle Helmet**, never worn, meets 2-90-1-66 stds., \$25. 714-633-0328.

**Occasional Chairs**, 2, coral & gold, \$10 ea. 213-670-2564.

**House**, 2-bdrm., corner lot, No. Inglewood, \$18,500. 213-672-1090.

**Color Processing Kit**, CP-5, 2, \$5 ea. 213-327-4267.

**Aquariums**, 15-17 1/2-6 1/2-8 1/2 gal., stands, equipt., incl., \$100. 213-329-7382.

**Sewing Machine**, portable Singer zig-zag, \$60. 213-372-7841.

**Acreage**, 2 1/2 acres, Antelope Valley, E. side, water & elect. to prop. cor., \$400 dn., \$45 mo., 7%, \$4,950. 213-378-1026.

**Pup**, German Shepherd, AKC, female, 11 wks., \$75. 213-329-5644.

**Wedding Gown**, George Mauer orig., size 10, \$50. 213-375-4312.

**Motorcycle**, 1969 Hodaka Ace 100, 5 spd., \$300. 213-377-3552.

**Acreage**, 1 1/10 acres, Oak Creek Canyon, Ariz., 100 yds. to Oak Creek, \$7,500. 213-923-9957.

**Sailboat**, 24' sloop, 25 h.p. inbd. motor, 3 dacron sails, hoist gear, sleeps 3, \$4,000. 213-379-5652.

**Acreage**, 2 1/2 acres, Little Valley Lassen County, \$4,000. 213-645-2711.

**Coffee Table**, Alabaster marble top, & stand, \$30. 213-675-1000.

**Box Spring** & mattress, full size, Holly-wood frame, \$35. 213-326-3135.

**Baby Items**, 3 pcs., \$20. 213-780-7476.

**Aquarium**, 26 gal. stand, Dinaflow filter, htr., \$60. 213-320-8845.

**Trailer**, 1966 Apache Buffalo, sleeps 6, bltin stove, htr., awning, \$600. 213-860-3793.

**Condominium**, 2-bdrm., den, 2 baths, shag cpts., gym, saunas, swim pool, tennis cts., golf course, rec. hall, \$34,950. 213-370-6348, 213-325-0788.

**Range**, gas, drop-in, hood, white w/black glass, \$125. 714-637-7662.

**AM Stereo** FM radio, comb., Garrard record changer, 58" long, 28" high, hand-rubbed oiled walnut, \$200. 213-674-1400.

## Miscellaneous For Sale

**Dishwasher**, auto. GE, white, chop block on top, semi-portable, \$100. 213-459-1045.

**Wanted to Buy**

**Answer Phone System**. Box 802.

**Free (To Be Given Away)**

**Gravel**, pea size, to anyone willing to remove it. 213-325-2637.

**Pups**, Spaniel-type & mother, 12 mos. old. 213-391-5046.

**Kittens**, 3 mos. old. 213-454-1540.

**Pups**, Beagapoo, beagle & poodle comb. 213-675-3931.

**Wooden Windows**, used, 24" x 36" & larger. 213-379-4517.

**Rentals Offered**

**Apt.**, 1-bdrm., furn., covered car ports, near Northrop, \$145 mo. 213-821-9110.

**Cabin**, Lake Arrowhead, close to lake & village, patio, f/place, \$80 wk., \$30 wk/end. 213-845-5949.

**Apts**, furn., pool, rec. rm., carport, laundry rm., walking distance to plant, single, \$125, 1-bdrm. \$150. 213-644-1074.

**Home**, Bass Lake, \$150 wk. 213-374-3702.

**House**, unfurn., 4-bdrm., 2-story, den, swim-pool, near all schools, Carson area, \$320 mo. 213-835-7669.

**Cabins**, Big Bear Lake, completely furn., \$18 day, \$90 wk. 714-866-2548.

**Cabins**, Lake Gregory & Crestline, sleeps 6, \$65 wk. 213-821-8150.

**Studio Apt.** 2-bdrm., 2-bath, sub. gar., adults, \$225 mo. 213-670-6084.

**Cottage**, Ocean Bch., San Diego, near Mission Bay, \$80 wk. 714-826-2007.

**Cabin**, Big Bear, Moonridge, 3-bdrm., 2-baths, kit., utens, f/place, family only, \$125 wk., \$50 w/end. 213-326-7232.

**Cabin**, Big Bear Lake, Moonridge, f/place, sleeps 4, family only, \$75 wk., \$30 w/end. 714-528-2810.

**Rentals Wanted**

**House**, 1 or 2-bdrm., unfurn. \$115 or \$140 mo., have 1 dog, close to Northrop. 213-677-5033.

**Child Care**

**Child Care Wanted**, Monday-Friday, 7:45 a.m. to 5 p.m., infant 6 mos. 213-947-1347.

**Babysitting**, afternoons or evenings, So. Bay area. 213-371-8167.

**Personals**

My sincere thanks for the kind expressions of sympathy on the recent passing of my father. BERNIE SCHIER.

I want to thank all my Northrop friends & co-workers for an enjoyable retirement party & gift. JOE SMITH.

Thanks to all my very good friends who helped make my retirement party a happy one. P. W. SMITH

We wish to thank our many friends for the wonderful retirement party, gifts & good wishes. HOWARD & ANNE ALTMAN

I wish to express my appreciation to all my friends at Northrop for making my retirement party an event to remember. R. B. TOMPKINS

Share rides 2 or 3 days wk., So. Torrance area to NCL Bldg., 8 a.m.-4:42 p.m. or 8:15 a.m.-5 p.m., Aircraft Div. ext. 2065, 213-325-5198.

I wish to express my sincere appreciation to my Northrop friends for the retirement party & presents. PAUL VON ESSEN

**Ride Wanted**, part time, 8 a.m.-4:42 p.m., from Westminster to Plant I, Aircraft Div. ext. 1211, 213-772-1896.

Many thanks to my friends for the cards, flowers & expressions of encouragement concerning my disability, J. S. "ARMY" ARMSTRONG.

**Ride Wanted**, 7 a.m.-3:42 p.m., Artesia Blvd. & Inglewood Ave. area to Plant I, 213-379-0930.

**Ride Wanted**, 7:30 a.m.-4:12 p.m., Del Amo & Cherry or Del Amo & Carson, Long Bch. to Mariposa, ext. 6411, 213-537-0757.

**Ride Wanted**, or car pool, 8 a.m.-4:42 p.m., P.V. Dr. North & Rolling Vista Dr. to Engg. Science Ctr., Aircraft Div. ext. 2313, 213-530-3666.

**For Sale or Trade**

**House**, 2-bdrm., concrete fence, near school & shopping, \$23,950 or trade equity for mobile home. 213-532-6687.

**Camper**, 8' Merced, Cabover, stove, 16-gal. water tank, 75-lb. ice box, \$695 or trade for VW of equal value. 213-370-6400.

**Washer**, auto. G.E., 2 yrs. old, white, \$75 or trade for stereo tape. 213-632-2642.





RECEIVING HIS 25-year service award is Jewell Plummer, manager, Contract Management, left, from John Evans, vice president, Manufacturing.

## Northrop Ventura Gives Assistance to Youth Corps

The Ventura County Neighborhood Youth Corps is in receipt of a cash contribution of \$100 from Northrop Ventura, to assist in the operation of the Youth Tutors Program.

This program involves high school and college students tutoring primary grade disadvantaged youth from the Oxnard area, according to Joe Anguiano, project director of the Ventura County

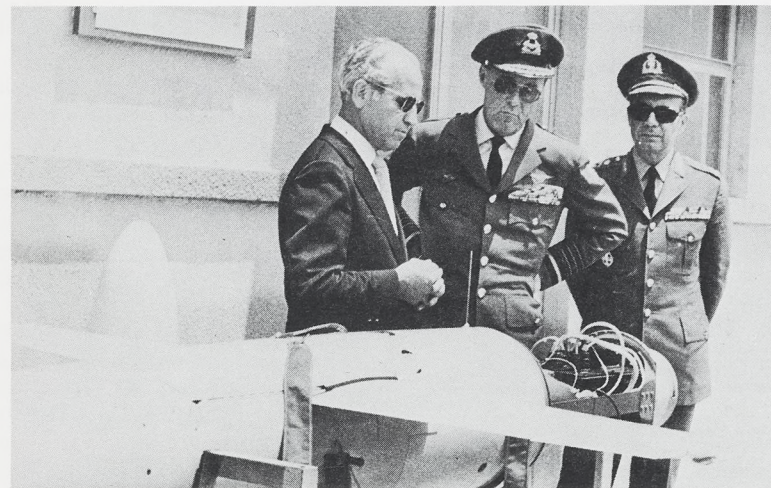
Mexican-American Opportunity Foundation.

"A tremendous drop-out rate has traditionally plagued the Mexican-American community," said Mr. Anguiano, "and we feel that in giving them this extra help through the NYC we could help in eliminating our school drop-out problem."

### SCOUT BANQUET

Plans are under way for a Northrop Ventura sponsored banquet honoring local Eagle Scouts as part of an annual program arranged by the Ventura County Boy Scout Council.

A committee has been established to plan the affair, including Paul Lawrason, chairman, Frank Tipton, Warren Sparks and Rex Fairless.



PRINCE BERNHARD OF The Netherlands, center, visited Northrop at NAMFI last month to watch target check-out and target operations at the NATO Range on Crete. Shown with Prince Bernhard are Ralph Friesen, manager, Northrop Operations and General Lagarias, commander, NAMFI Range.

## SERVICE AWARDS

### Merrick Marks 20 Years

William Merrick, senior leadman in the division's MQM-74A Final Assembly, celebrated his 20th anniversary with Northrop last month.

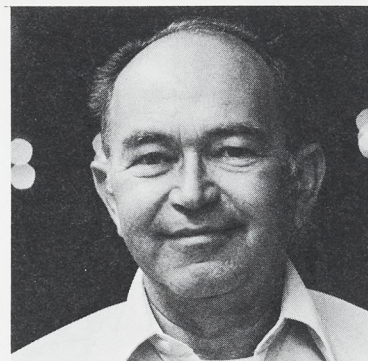
Mr. Merrick worked at the Aircraft Division for 10 years before transferring to the Ventura Division.

Northrop employees who earned 15-year service awards this month were William Gavan, Lycurgus Karas, Nacho Romero, George Stites and Bob Thornton.

Ten years: Jaddis Martin, Kenneth Morris, Chuck Mitman, Shelly Greenberg, Dick Tupper, Tony Polikaitis and Paul Barba-kow.

Five Years: John Bunnell, Joseph Gracey, Raymond Volkmar, Ron Aitken, Alice Greiner, Jeannette Cummings, Ed Barker, Alice Tooley, Jim Tyrolt, Fred

West, Roy Van Winkle, Jack Hagedorn, Ken Brubaker and Ruth Gundelfinger.



Mr. Merrick

### NRC EVENTS

The Dodgers-Cubs baseball game will be held Friday, August 18, at the Dodger Stadium. Tickets are \$3 including bus fare.

NRC Golf Club will play the Saticoy Golf Course on Saturday, August 19. Bob Jones, commissioner, ext. 1374.

The Wheel Club will go on a 50-mile training tour, Saturday, August 19. Bruce Knudson, commissioner, ext. 1018.

The Billiards Club holds tournaments Mondays through Fridays during lunch hour and at 6:30 p.m. on Wednesdays at the NRC Clubhouse. Bill Mullins, ext. 1215.

The Bridge Club has weekly tournaments. Betty Reinisch, commissioner, ext. 1214.



THE TINY SILVER-DOLLAR sized nest being examined by Peggy Walthius, Contracts, houses a baby hummingbird being raised in a tree just outside an Engineering building entrance. According to Peggy, the nest was a marvel of engineering, able to resist the high winds prevalent in the area, and both mother and baby seemed oblivious to people passing by or peering into the nest.

### Joe Reed Receives Economics Degree

After 15 years of after-hours study with assistance from the Northrop Education Refund Plan, Joe Reed, Configuration Management project administrator, has received his B.A. from LaVerne College.

Mr. Reed, a 21-year Northrop veteran, says, "It was rough and I'm glad it's over. I never could have done it without help from my wife, Doris and children, Debbie and Greg."

With a major in economics, he carried an "A" average for the last 32 units of study.

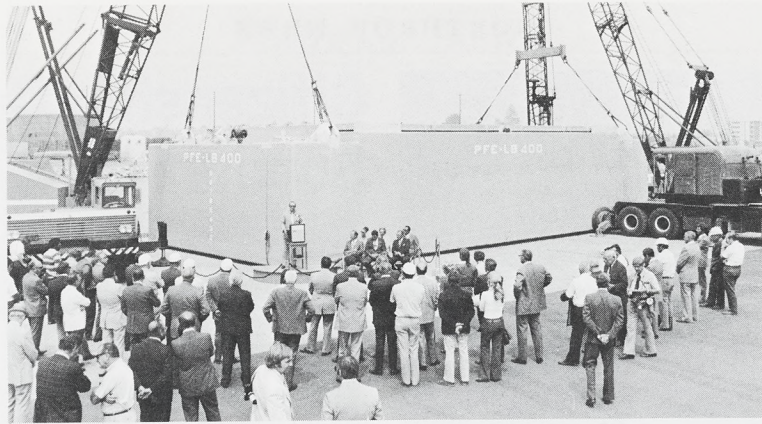
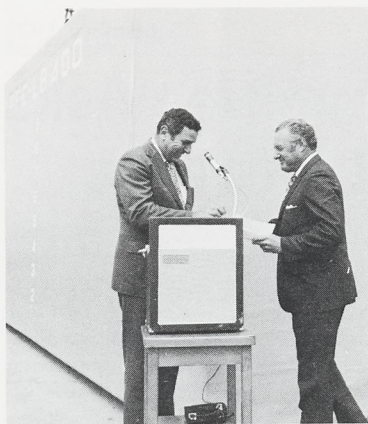
"Now that I have some free time, my wife has a list a mile long of things for me to do in the evening," said Mr. Reed. "I think she's been preparing it for 15 years."

### Howard Heads Dental Center

Dr. Jeff Howard has replaced Dr. Bertram Sachs at the Thousand Oaks Dental Center, which serves those Northrop Ventura employees who are currently enrolled in Dental Plan II. Dr. Howard has maintained a private practice in the Thousand Oaks area for four years.

Dr. Howard's telephone number is (805) 497-8588 and his office is located at 246 Lombard St., Thousand Oaks. His office hours, Monday through Friday are 7 a.m. to 6 p.m.





WELKO GASICH presents title to barge to George Gmelch, vice president, Operations, Pacific Far East Line, left; Dorrill Wright, mayor pro tem, city of Port Hueneme, extends official greetings, center; Janet Carroll, daughter of managing director and Mrs. L. B. Carroll, Jr., breaks bottle of champagne over bow of barge, right.

# NORTHROP NEWS

VENTURA DIVISION EDITION

Northrop Corporation, Los Angeles, California

Vol. 30, No. 9

September 1972

## Northrop Hueneme Men Save Two From Fire

Five Northrop-Hueneme men were heroes of a fire that claimed the life of a four-year-old boy, and badly burned a man and a 16-year-old girl.

Craig Hornbuckle, Ronnie Quesada, Bill Tingley, George Rico, and Carlos Munoz, members of the Northrop-Hueneme graveyard shift, were taking a coffee break at three a.m. when they saw flames shooting out of a duplex house across the street from the Northrop plant at Port Hueneme.

Mr. Munoz ran to alert the fire department while the other

four rushed to the fire. They found a woman in front of the house screaming, "There's people inside."

Mr. Quesada, ignoring the intense heat and flame, rushed into the house. He smashed a window and was pulling 16-year-old Terry Davis from the flames when he was overcome by smoke.

The other Northrop men — Craig Hornbuckle, Bill Tingley and George Rico — went to his assistance, pulling him and the girl from the blazing building just as the fire department arrived.

Four-year-old Joe Louis Beason was trapped in a back bedroom and could not be rescued. His father, Joe Beason, suffered second degree burns over 90 per cent of his body. Both he and the young lady rescued by the Northrop men are in the intensive care unit at USC-LA County Medical Center.

## Credit Union Has New Loan Policy

A new signature loan policy has been announced by the Ventura Division Credit Union, establishing a new maximum of \$1,500 or 1½ times the employee's monthly salary, whichever is less.

Maximum signature loan for three months to one year's employment is \$200. Maximum repayment time is 12 months.

Maximum signature loan for one year to three year's employment is \$750. Maximum repayment time is 12 months.

Maximum signature loan for three year to five year's employment is \$1,000. Maximum repayment time is 18 months.

Maximum signature loan for five year's or more employment is \$1,500. Maximum repayment time is 24 months.

## NORTHROP AIDS UNEMPLOYMENT

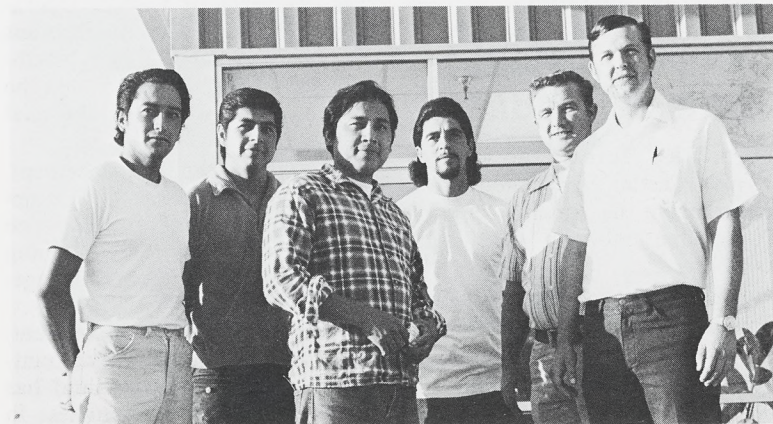
Northrop's plant for production of LASH fiberglass barges at Port Hueneme is providing an unusually high percentage of jobs for minority individuals.

Andres Herrera, Northrop Hueneme director of Personnel, points out that 67 per cent of the plant's 300 employees represent minority groups.

"This unusual record has been achieved," Mr. Herrera said, "because from the very start we worked closely with the California State Department of Human Resources Development in recruiting personnel."

The work force now includes 185 Mexican Americans, 24 blacks and six American Indians. Of the total work force, 145 are Vietnam veterans. Northrop trained

(See AIDS, page 6)



NORTHROP HUENEME heroes are, from left, George Rico, Ronald Quesada, Carlos Munoz, Larry Quesada, Bill Tingley and Craig Hornbuckle.

## Hueneme Launches First Barge

Northrop Ventura's important role in the entrance of Northrop Corporation into the marine transportation field was highlighted at the Aug. 30 launching of the first of the fiberglass barges built in the new Hueneme facility.

Addressing approximately 100 shipping industry and civic leaders, General Manager Welko Gasich described how techniques developed at Northrop Ventura in production of the wing-to-fuselage fairings for Boeing 747 airliners have been translated into production of barges, or lighters as they are called in the marine shipping industry, for use in connection with the revolutionary new maritime cargo handling system known as LASH. LASH is an acronym for "lighter aboard ship" and involves very large freighters carrying cargo-filled barges.

The 747 fairings are the world's largest airborne fiberglass structures. The barges are the largest displacement fiberglass cargo vessels in the world.

In ceremonies preceding the launching of the first barge Mr.

(See LAUNCH, page 6)

## SERVICE AWARDS

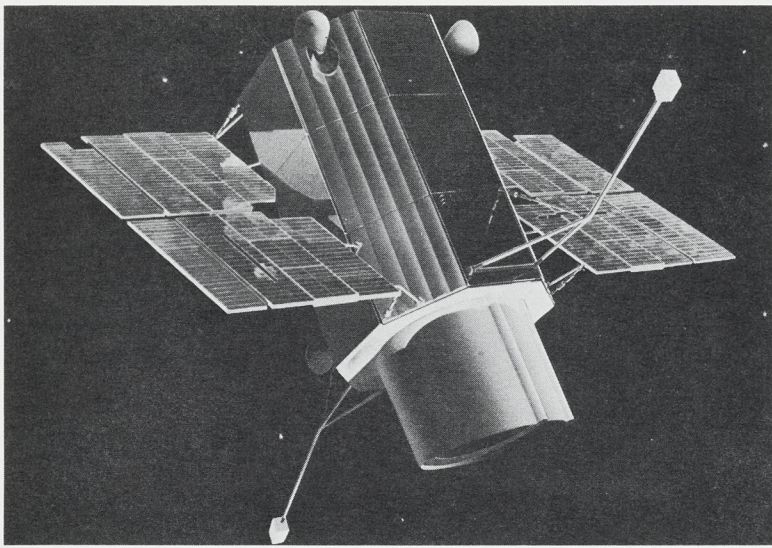
Eighteen Ventura Division employees have received 15, 10 and five-year service awards.

Fifteen years: Daniel Voss, Paul Friedman and Roy Hodges.

Ten years: Rahim Lavi and Jose Blanco.

Five years: David Maher, Marshall Smith, Robert Kelly, Reymundo Uribe, Wilbert Carlson, Norris Drewery, John Riedl, John Haberek, Donald Reynolds, Patricia Smith, Larry Kirsch and Doreen Lochemes.





COPERNICUS—NASA'S ORBITING ASTRONOMICAL LAB

## NORTHROP ASSISTS NASA's 'Big Eye in Space'

Northrop technicians had an important role in the highly successful launch of NASA's Copernicus orbiting telescope.

Copernicus is a 4,900 pound orbiting astronomical observatory satellite which contains a 32-inch diameter telescope. It was placed in orbit 460 miles above the earth on Aug. 21 by an Atlas-Centaur rocket from Cape Kennedy, Florida.

The "Big Eye in Space" was designed to operate above the earth's atmosphere which greatly restricts clarity and resolution of earth-bound telescopes.

It is expected to help revolutionize present day space astronomy, revealing secrets of interstellar space heretofore impossible.

### Provided Support

Northrop personnel of Northrop Services, Inc. at NASA's Goddard Space Flight Center, Greenbelt, Maryland, provided technical and environmental testing support to NASA on the Copernicus project.

Northrop Services, Inc. activities at Goddard include Structural Dynamics Support, Thermal Vacuum Operations, On-Line Data Collection and Analysis, Optics and Solar Simulation Support and Clean Room Support.

To accomplish these duties, NSI operates and maintains 15 vacuum and thermal chambers for testing scientific satellites. Solar simulation, contamination control, and gas analysis activities support space chamber operations as required.

NSI manages, operates, and maintains the Goddard Space Flight Center acoustic generation

and vibration laboratory, and its associated data acquisition systems and equipment.

NSI personnel also operate the 60-foot, 500,000 pound environmentally controlled Launch Phase Simulator Centrifuge. The simulator was built by Northrop for the NASA space program.

NSI is a Northrop subsidiary. Frank W. Lynch is NSI president with vice president William J. Oakes as general manager.

### Project Men

Ron Sheffield is Northrop's project manager at Goddard. Assisting him in providing testing on various NASA spacecraft, including the Copernicus orbiting telescope, are supervisors Steve Suarez, Structural Dynamics; Charlie Armbrust, Data Collection and Analysis; Dave Orbock, Thermal Vacuum; and Tom Amacher, Facility Maintenance and Special Projects. John Packard is staff assistant to the project manager and Howie Koth is business manager on the project.

## HEARST CASTLE TOUR SCHEDULED

An NRC Travel Club tour for Hearst Castle, San Simeon, will depart from the Aircraft Division Plant One cafeteria at 9 a.m. Oct. 7.

Round trip bus transportation, double occupancy rooms at the Golden Tee Resort Lodge and a choice of either the upper or lower floor tour of the castle costs \$24.50. Meals are not included.

Call Gayle Hayes, Aircraft Division ext. 2486 for reservations.

## Citizenship Committee Asks Support for '72 Elections

All Northrop employees will have the opportunity to volunteer their services and to contribute financially to the election of the presidential candidates of their choice.

Under sponsorship of the Northrop Good Citizenship Committee, announcements have been posted on all bulletin boards urging employees to participate in the 1972 presidential election campaign.

"This year's presidential election will largely determine the political, economic and social direction of our country for the next four years. Because of its importance, each of us should consider making a significant contribution to the election of the presidential candidate of his choice," the committee stated.

"We should register, vote, and if possible, offer to serve as a volunteer in campaign activities for the candidate we regard best. Many may prefer to contribute some financial support, and for this purpose we are providing a means by which you can do so in complete privacy and independence of choice."

All donations will be sent to an independent auditing firm, which will forward them to the specified candidate.

Contribution cards and envel-

opes are available in racks posted at all bulletin boards where the Good Citizenship announcements appear.

Employees who wish to volunteer their services have been urged to apply to the Good Citizenship Centers in their respective plant locations. Good Citizenship Committeemen emphasize that the program is entirely voluntary and the political choice of each individual is handled in a confidential manner.

Good Citizenship Centers have been established in the following locations:

Aircraft Division, Marie Tully, ext. 2486; Electro-Mechanical Division, Robert Boostrom, ext. 288; Ventura Division, Patricia Schreiner, ext. 441; Electronics Division, Harry Clark, ext. 425; Research and Technology Department, Esther Demoss, ext. 2711.

## James Corcoran To Head Saudi Arabia Operation

James R. Corcoran, Jr., has been named vice president and Corporate executive for Northrop Corporation's operations in Saudi Arabia, Thomas V. Jones, Northrop president, has announced.

In making the announcement, Mr. Jones said Mr. Corcoran's extensive background in international business and financial management will make a substantial contribution to Northrop's business interests in Saudi Arabia.

Mr. Corcoran formerly was senior representative, Financing Services for Bechtel Corporation. Prior to that he was president and chief executive officer of Champion Resources, Inc. He has held a number of key management positions.

## ART SHOW SET

The Electronics Division's P.V. facility will again be the site for Art for Fun(d)s Sake, one of Southern California's largest art festivals, sponsored by the Palos Verdes Community Art Assn.

The open-air affair is set for Oct. 14 and 15 from 10 a.m. to 5 p.m.

Artists from the Aircraft, Electro-Mechanical and Electronics divisions will be among the 250 Southland artists exhibiting at the show.

## Campbell Elected V.P., Controller

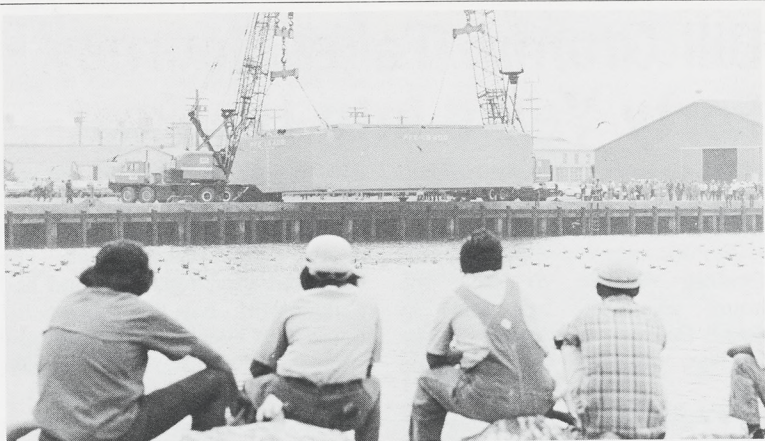
Jack B. Campbell has been elected vice president and controller of Northrop Corporation, James D. Willson, senior vice president, Finance and treasurer, has announced.

Mr. Campbell, who joined Northrop 20 years ago, formerly was in charge of Eastern Operations for Page Communications Engineers, Vienna, Va., a Northrop subsidiary. Prior to that he served as Page's chief financial officer.

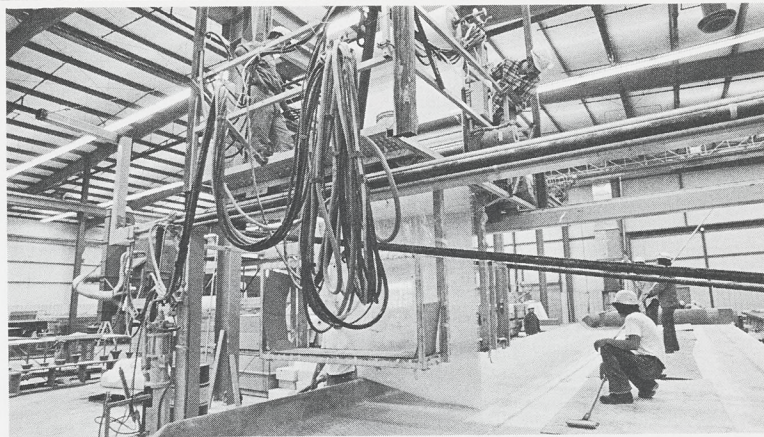
In making the announcement, Mr. Willson noted that Mr. Campbell's many years of experience will "contribute to the continuing success of the financial management of the company."

A certified public accountant, Mr. Campbell holds an accounting degree from UCLA and has completed advanced studies in taxes, systems, and financing. He is a member of the American Institute of Certified Public Accountants.





SPECTATORS WATCH LAUNCHING



UNIQUE MACHINE LAYS FIBERGLASS

## Northrop Hueneme Builds Its First Fiberglass Barge

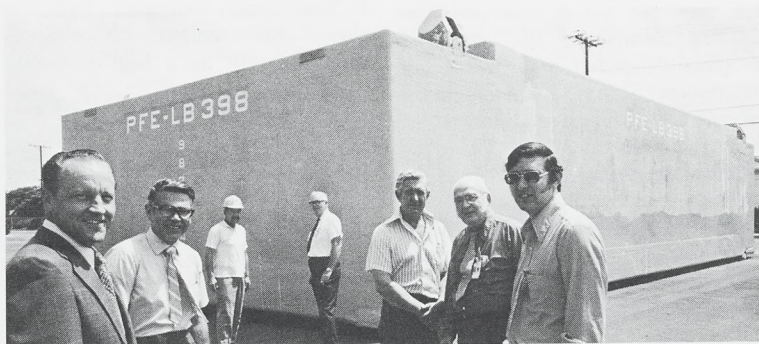
NORTHROP HUENEME launched the first of its new fiberglass barges on Aug. 30. The barges, for use with the revolutionary new maritime cargo handling system LASH (Lighter Aboard Ship), are the largest displacement fiberglass cargo vessels in the world. Here the camera of Bob Thornton catches highlights of the launching ceremony and work along the production line. Northrop will build 200 of the barges for Pacific Far East Line.



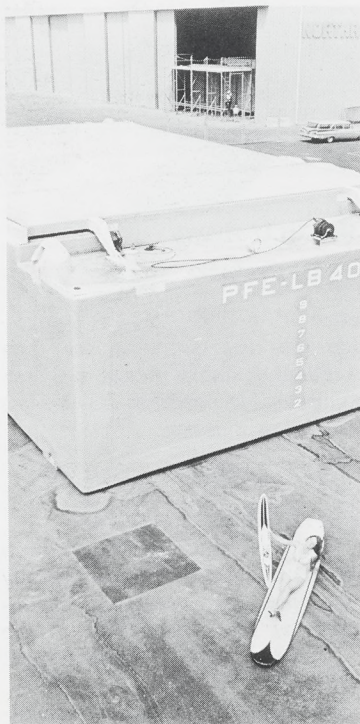
WARREN MURRAY monitors stress during tests of the new fiberglass barge. Barge will be floated to ships and lifted aboard, greatly facilitating loading.



LUDWIG HEINZE LOHERNZ tightens fire hose connection during water fill test of the new fiberglass barge at Northrop Hueneme.



FROM LEFT, Larry Carroll, Bob Worth, Jack Bunnell, Jim Goff, Bob Lochemes, John Nichols and Bill Glass formed nucleus of the Northrop Hueneme operation. They are experienced in 747 wing fairing production which utilizes fiberglass construction.



LINDA MC CLAIN, Miss Port Hueneme, contrasts smallest fiberglass marine structure, a water ski, with Northrop's new barge, the largest displacement fiberglass cargo vessel.

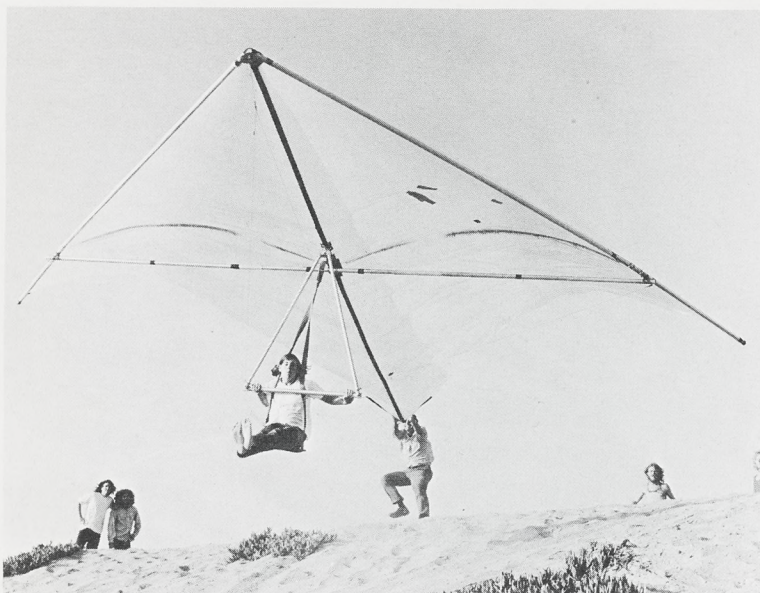


DIGNITARIES at the Northrop barge launching are, from left, Earl R. Bennett, secretary, Oxnard Harbor District, Leo J. Ramirez, vice president, Oxnard Harbor District, L. B. Carroll, managing director, Northrop Hueneme, George Gmelch, vice president of Operations, Pacific Far East Line, Inc., Bob H. Jennings, member, Oxnard Harbor District, Welko E. Gasich, president, Northrop Hueneme, and Cecil Schnelle, member, Oxnard Harbor District. Hubert Catlin, president, Oxnard Harbor District, was out of the city on business.



FABRICATING a fiberglass side panel are Del Earl, Richard Telles, Richard Porras, Frank Robles and Robert Esquivel.





NORTHROP glider enthusiasts take off a la Otto Lilienthal.

## HONORING OTTO

# Glider Interest Soaring

Three Northrop men work on the A-X and F-5E — the world's most modern aircraft during the week, but on the weekends they step back to aviation's diaper days. And it all came about because of a 123rd birthday party for a man who has been dead 76 years.

"Yes," said Nick Linardos, Current Aircraft Systems Requirements, "that's the way it started. Wil Tebo, manager, A-X Test, said he was going to a 'Happy Birthday, Otto Lilienthal, Meet,' which we found out was a fancy name for a Hang-Glider championship tournament.

"It was so-named to honor Lilienthal who was a pioneer glider experimenter. We had never heard of a hang-glider before, but Wil explained that it was an all-inclusive name for anything you could put together, hang-on to and fly without power. He had built one of bamboo, wire clamps and polyethylene plastic sheeting for his sons Glen, Alan and Bruce to fly at the meet."

The idea sounded so intriguing that both Mr. Linardos and Carl Weyl, manager, F-5 Aerodynamics, built their own glider.

"However, I was smart enough to make my sail too small for

me to ride it," Nick reports. "So my sons, Jim and John, who are more pioneering than I am, fly it."

They discovered that there is a rapidly growing interest in hang-glider flying. Each weekend groups of enthusiasts gather at the sand hills at Playa Del Rey to emulate their hero, Otto Lilienthal.

One way to get airborne in the gliders is to run down hill into the wind until air flowing over the camber of the plastic or cloth sail creates enough lift to get man and wing into the air. Other more hardy souls jump off cliffs, buildings, and anywhere else they can get elevation. This is not recommended, however. Experienced glider fans say you should never attempt to fly higher than you are willing to fall.

Incidentally glider fans who pass along this rule rarely follow it themselves.

There are several types of wings used by hang-glider fans. The Northrop trio prefers the Rogallo wing type. This is a flex-wing design which NASA recently tested as a rocket-booster recovery system. The basic concept of the Rogallo wing is supposed to go back to the pterodactyl, the gliding dinosaur.

"Our design is a bit more modern than that, of course," Nick reports. "The one Carl Weyl built with his sons, Ray and Bob, uses aluminum tubing, tape, rigging wire and 300 square feet of polyethylene plastic sheeting. So you can see that even if our design is 50 million years old, we approach it in a modern manner."

# Bill Gramm Takes Journey Forty Years Into His Past

Bill Gramm, Electro-Mechanical Division, has just completed a trip 40 years into the past.

For his vacation this year, Mr. Gramm decided to seek the house where he was born in South Dakota — a house that he last saw when he was nine years old.

"I knew the general location," he said. "But not the exact place. I did recall very vividly how the old place looks. It was a 15-room house with a summer kitchen where we cooked for summer thresher hands. I drew a picture of it to take with me so I could show it when I asked for direction."

To his surprise, he had no trouble. In a bank in Menno, S.D., he found people who had known his father 40 years ago. "They told me where to go."

It was a shock, he said when he saw the place, which is now 100 years old. "I had the feeling I had really stepped back in time," he recalled. "It was almost exactly as I had last seen

it. The only changes in the last 40 years were the summer kitchen had been removed, and some of the fences taken down. The barn had been repainted and had a new roof, but the rest of the house and even the old outhouse were still as they had always been."

The house was originally built in 1872 and bought by Mr. Gramm's father who moved into it in 1905, living there until the early 1930's when the family moved to California.

"It was a strange feeling," he said. "I felt that I could walk in, hang up my hat and feel at home again."

On the trip Mr. Gramm was accompanied by his wife, Olga, and son Andy, 15. They toured the major national parks in Utah, Montana and Wyoming, but the highlight was his visit back "home."

"It was," he says positively, "the best vacation I've ever had in my life."



BILL GRAMM AND HIS OLD HOME

## COMPUTER CONFUSES OLSON'S 'MR. Y34'

Computers are getting more human every day — they get confused like people.

At least this is the experience of H.D. Chen, Olson Laboratories engineer.

Mr. Chen has just received a form letter, addressed by a computer. It was addressed to H. Chen Nrthrp8200 Y34 and began "Dear Mr. Y34."

And then just to make sure that Mr. Chen realized that he had a new designation, the letter repeated the "Mr. Y34" three more times, ending by assuring him, "You can take advantage of this training opportunity, Mr. Y34, without interfering with your work."

After a careful study of the

letter, it is "Mr. Y34's" suggestion that the company use their excellent training course on their computer. It needs it, for Y34 is a building number.

## NORTHROP INVITED TO DISNEYLAND

Northrop employees have been invited to take part in a "Family Fun Night at Disneyland" sponsored by the Association of the U.S. Army Oct. 20 from 8 p.m. to 1 a.m.

Northrop ticket outlets are offering 1,000 tickets on a first-come, first-served basis. Each sells for \$4.25 and includes admission to Disneyland and unlimited use of all attractions, exclusive of shooting galleries.





# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

- T-Bird**, 1956, completely restored, radio, p/b, p/s, \$1,995. 213-756-1812.
- Station Wagon**, 1969 Pontiac Bonneville, a/c, p/s, p/b, \$2,450. 213-377-6658.
- Buick**, 1964 Wildcat, 4-dr., new batt., \$550. 213-644-6580.
- Ford Bronco**, 1969, a/c, o/sized tires L78-15 & whls., \$2,450. 213-378-5382.
- Falcon**, \$200. 213-532-4625.
- Station Wagon**, 1966 Ford, r/h, a/c, \$650. 213-928-2257.
- Station Wagon**, 1971 VW Mod. 411, 85 h.p., auto. trans., 6,500 mi., \$2,700. 714-774-9183.
- Continental**, 1967, 1,500. 213-644-3376.
- Austin Healey 3000**, 1960, wire whls., \$595. 213-378-1140.
- Pickup**, 1966 Chev. 3/4-ton, w/10' o/head camper, many extras, \$2,500. 213-675-3254.
- Lotus Europa**, 1971, \$4,500. 213-759-7885.
- Rambler American**, 1964, r/h, \$450. 213-644-7088.
- Austin America**, 1969, new tires, trans., \$595. 213-376-5648.
- Ranchero**, 1968 G.T., air, p/b, p/s, 47,000 mi., \$1,800. 213-835-7663.
- T-Bird**, 1957, eng. & trans. o/hailed, \$1,850. 213-371-6168.
- Volkswagen**, 1968 Squareback, r/h, \$1,050. 213-375-9397, 213-375-2091.
- Fiat**, 1967, 850 Spyder, \$650. 213-672-3133.
- MGB**, 1966, 54,000 mi., tonneau cover, \$1,200. 213-377-4230.
- Pickup**, 1966 Ford, w/8' camper, V-8, a/t, radio, \$1,550. 213-377-8155, 714-249-3044.
- Plymouth**, 1966, Belvedere, r/h, V-8, 4-dr., \$575. 213-329-3548.
- Volkswagen**, 1960, 1965, radio, full reclining front seat, \$495. 213-823-4059.
- Rover**, 1968, auto. 2000, chrome whls., 4-dr., \$1,250. 213-675-5712.
- Volkswagen**, 1966 bus, \$450. 213-835-3985.
- Station Wagon**, 1963, Fairlane, V-8, auto., r/h, p/s, \$375. 213-671-4550.
- Jaguar**, MK X, 1963, 4-dr., p/s, p/b, \$1,000. 213-371-8275.
- Plymouth**, 1969, Custom Sub. 2-seat wagon, auto, a/c, \$2,250. 714-892-7174.
- Fiat**, 1968 850 Spyder, r/h, eng. rebilt. \$1,000. 213-379-6425.

## Miscellaneous For Sale

- Motorcycle**, 1967 Bultaco, 200 cc, new gear box, \$299. 213-740-0589.
- Travel Trailer**, 26' 1969 Monitor, Eastern coach, self-contained, sleeps 6, 17' awning, screen rm., \$3,700. 714-842-4688.
- Stove & dble oven**, Magic-Chef Chateau mod., rotisserie w/3 spits, 30" w., 6' 5 1/2" high, white, \$200. 213-421-0145.
- Movie Outfit**, 8 mm, \$75. 213-679-6982.
- Dishwasher**, G.E. portable elec., full size, copper, chop. block top, \$90. 213-530-5526.
- Tires**, 4 Firestone fiberglass belted, E-70-14, \$80. 213-675-2514.
- Refrigerator**, 18' G.E. 2-dr., white, \$50. 213-542-5434.
- Room Air Conditioner**, Coldspot, 5,000 btu, \$60. 213-347-9756.
- Sloop**, 16', fiberglass, w/trailer, \$500. 213-985-6968.
- Coffee Table** w/2 end tables, walnut, \$20. 213-676-0818.
- Mini Bike**, Bonanza 1200, 3 1/2 h.p. Tecumseh, \$95. 213-675-0490.
- Mobile Home**, 2-bdrm., 1971 Homette, 20' x 44', 2 baths, air cond., & lot 90' x 120' fenced, \$13,500. 714-897-3703.
- V.T. V.O.M.**, Knight, lge. 6" meter, \$30. 213-676-5101.
- Acreage**, 2 1/2 acres, Flamingo Ests., 8 mi. north of Yucca Valley, streets, water, pwr. \$5,000. 213-320-8325.
- Rug**, bear skin, \$100. 213-675-1000.
- Crib & mattress**, high chair, \$15 or sell sep. 213-326-3135.
- Ski Boat**, 16' Tahiti, trailer, 125 h.p. Merc. outboard, \$1,850. 213-869-2673.
- Strip Chart Recorder**, Techni-Riter, 20-channel, \$35. 213-545-7149.
- Bed Frames**, 2 twin, metal, padded h/boards, \$10. 213-374-8645.
- Freezer**, 21 cu. ft., upright, white, \$350. 213-537-0757.
- Formals**, size 7-8, \$5 & up. 213-635-4104.
- Dress Form**, Adjust-O-Matic, for sizes 8-20, \$5, other items, various prices. 213-837-4525.
- Sailboat**, 24', inbd., freshwater cooled aux. eng., sleeps 3, \$4,500. 714-833-1331.
- Dog**, basset hound, A.K.F. regist., male, 2 yrs. old, doghouse included, \$50. 213-596-0433.
- Saxophone**, Greisch Commander alto, \$60. 213-377-8508.
- Picnic Table**, umbrella, \$30. 213-675-6020.
- Golf Shoes**, ladies' Arnold Palmer, size 7B, worn once, \$10. 213-784-3802.
- Acreage**, 2 1/2 acres, 1 1/2 mi. from Calif. City golf course, 10% dn., \$6,600. 213-430-1952.
- Encyclopedia Britannica**, set w/2-vol. dictionary, 1972 ed., not used, \$300. 213-644-4859.
- Range**, gas, Magic Chef, white, self-cleaning ovens, completely auto., \$350. 213-926-5665.
- Lawnmower**, gas, & edger, \$45 ea. 213-532-6687.
- Piano**, Wurlitzer elec., \$200. 213-370-7861.
- Camper**, Tear Drop, 8' long, 1/2 cabover, sleeps 3, equip., stove, ice box, \$400. 213-865-3198.
- Flight Jacket**, Northrop orange, lge., \$18. 213-391-5046.
- Tape Deck**, Concord, stereo, \$70. 213-383-2887.
- End Tables**, 2 matching French Provincial, \$20 ea. 213-534-2951.
- Movie Camera**, Bell & Howell Super 8, w/projector & screen, \$100. 213-327-8357.
- Motorcycle**, Triumph 1966 650 Bonneville, recent eng. o/haul, 8" o/stock, \$850. 213-679-6192.
- Painting**, Golden Surf, repro. of seascape by Robert Wood, walnut edge frame, 29 x 65", \$10. 213-377-5362.
- Acreage**, 2 1/2 acres, edge of Apple Valley, terms, exc. rec./retirement, pwr. & phone, utils., \$5,995. 213-325-5609.
- Mobile Home**, Hillcrest, 20 x 53, 2-bdrm., 2 baths, family rm., porch & awnings, Brea area, \$12,900. 714-529-8195.
- Lot**, Canyon Lake, near Elsinore, 60 x 195, club membership for boating, swimming, small dn., \$6,950. 714-734-0543.
- Used Bricks**, approx. 200 & cement blocks, 10¢ ea. 213-376-4831.
- Motorcycle**, 1967 Hodaka, Ace 90, just rebilt., \$225. 213-377-8547.
- Boat**, 14' Runabout, 40 h.p. motor, trailer, elec. start., \$375. 213-324-8853.
- Houseboat**, 12 x 34, on Lake Mead, bitins., f/place, self-contained, sleeps 6, many extras, \$6,000. 213-634-5978.
- Ski Boots**, women's Koflack, size 6 1/2, \$20. 213-372-7958.
- Dressers**, Simmons white provincial, girl's, \$60 ea. 213-326-3136.
- Dining Room Set**, mahogany, 4 chairs, round table, 2 exp. leaves, glass front buffet, \$175. 213-675-4239.
- Piano**, restyled upright, formica covered, \$150. 213-941-3804.
- House**, 2-bdrm., \$2,300 dn., Hawthorne High area, \$23,000. 213-375-5009.
- Table Saw**, Sears Craftsman, 8" small ext. table, 2 blades, \$75. 714-535-4864.
- Divan**, 3-pc. sect., L shape, \$85. 213-323-8797.
- Sleeper**, sofa, twin size, \$85. 213-320-6887.
- Pups**, pug male & female, AKC reg., 6 wks. old, \$125 ea. 213-926-7624.
- Surfboard**, 8'10" Greg Noll, \$20. 213-378-2790.
- Tires**, 4 6.45 - 14, \$22. 213-534-4068.
- Auto Air Conditioner**, fits Chrysler, \$85. 213-672-2370.
- Lot**, Lytle Creek Canyon, R-1, \$2,800. 213-675-3100.
- Exhaust System**, stock, for 1971 VW bus/camper, used 15,000 miles, \$10. 213-421-2121.
- Bicycle**, girl's 10-sp., \$65. 213-392-1447.
- Chandelier**, 18" Spanish-type black wrought iron, \$15. 213-378-6415.

## Miscellaneous For Sale

## Miscellaneous For Sale

- Clothes Dryer**, G.E., \$80. 213-530-3666.
- Sliding Glass Doors**, 16', 4' panels, 2 fixed, 2 center slide 3/16 hvy. glass, \$300. 213-676-7213.
- Buffet**, 60" long, blond h/wood, \$75. 213-375-3790.
- Sofa Bed**, \$25. 213-679-5177.
- Slide Projector**, Bell & Howell 135 mm, 9 mos. old, \$40. 213-326-0340.
- Cassette**, car stereo, player, recorder, 8 tapes, 2 spkrs., 6 mos. old, \$85. 213-291-6075.
- Jointer**, Craftsman, 6", motor & stand, \$85. 714-523-8414.
- TV**, Admiral, b & w, 17" table mod. \$10. 213-377-4623.
- House**, corner, 2 yrs. old, 2-story, 4-bdrm., 2 baths, f/place, F.A. heat, bitins., dps., Cerritos, \$32,500. 213-860-3022.
- Acreage**, 2 1/2 acres, Antelope Valley, E. side, water & elect. to prop. cor., \$400 dn., \$45 mo., 7%, \$4,950. 213-378-1026.
- Airline Ticket**, to Japan, leave Sept. 30, Unitour, \$208. 805-482-7263.
- Lawnmower**, Blair hand-type, \$15. 213-370-0824.
- Houses**, 2 & 3-bdrm., on 1 lot, near Harbor Fwy., \$24,000. 213-329-2242.
- Travel Trailer**, 18 1/2' Prowler, cpts., self-contained, \$2,100. 213-324-3066.
- Boat**, 1970 16' Chrysler i/o, complete w/trailer, less than 10 hrs. on eng. & hull, \$2,000. 213-326-4157.
- End Tables**, walnut, \$10 ea. 213-541-3000.
- Arc Welder**, Craftsman, 50-75-100 amp o/put, 230 v. 20 amp input w/32' hd. 3-wire cable, other access., \$70. 213-377-9723.
- TV**, Sears Silvertone, color, 21" table mod., 2 yrs. old, \$200. 213-832-3857.
- Drafting Machine**, Post 24", \$50. 213-675-5258.
- Rug Shampooer**, Shetland-Lewyt, & floor polisher, \$20. 213-644-3922.
- Motorcycle**, 1972 Yamaha 100, 1,000 act. mi., under warranty, \$450. 213-889-8723.
- Cassette Tape Player**, Panasonic, w/carrying case, 6 mos. old, \$25. 213-674-1400.
- Trumpet**, King, case, \$75. 213-373-4298.
- Boat**, 10', fiberglass, 5 h.p. motor, and oars, \$150. 213-671-1660.
- Stereo**, AM-FM, w/record player & tape deck, G.E. dk. pecan contemp., \$250. 213-347-4196.
- Exercise Machine**, comb. rowing/bicycle, \$20. 213-326-5731.
- Beds**, twin, white h/boards, spring & mattress, \$25 ea. 213-675-6081.
- Motorcycle**, Honda 350CB, street, \$595. 714-879-2569, 714-533-7246.
- Boat**, 16' Glasspar, 60 h.p. Merc., 5 h.p. John., big whl. trailer, \$650. 213-670-2098.
- Washer & dryer**, Sears Lady Kenmore, \$60 set, other items. 213-866-3847.
- Wheels**, 5 safety rim, for Ford 1/2-ton pickup, fit 7.00x15 tires, \$125. 213-644-2941.
- Movie Camera**, 8 mm Yashica U, zoom reflex 37.5 mm lens, elec. eye, \$35. 714-523-5315.
- Crib**, mattress, \$20, other items. 714-536-9929.
- Piano**, Baldwin Acrosonic spinet, \$500. 213-894-1381.
- Ski Boat**, 16' glass o/wood, trailer, eng. needs work, \$200. 213-423-1363.

## Wanted to Buy

- Answer Phone System**, \$50-\$100. 213-545-2166.
- Dinette Set**, bicycle, girl's, convt. sofa. 213-379-4517.
- Skis**, Kastle, La Feme, 180 or 185. 714-528-5461.

## For Trade

- Mint (proof) silver dollar**, 1972, trade for 1971 mint (proof) silver dollar, must be in orig. sealed container. 213-675-2005.

## Free (To Be Given Away)

- Logs** for fireplace. 213-939-8053.
- Dog**, purebred Dachshund, female, spayed. 714-847-5938.
- Dog**, German shorthair pointer, 18 mos. old, female, needs lge. yd. 213-375-8148.
- Pups**, cockapoo, 6 wks. old. 213-921-5745.
- Baby Guinea Pigs**. 213-370-0484.

## Rentals Offered

- Cabin**, near Arrowhead & Running Springs, sleeps 4 or 5, \$35 wkend, \$95 wk. 213-70-7105.
- Cabin**, Big Bear, on golf course, sleeps 12, \$40 wkend, \$100 wk. 714-595-3968.

## Rentals Offered

- Cabin**, Lake Arrowhead, no. shore, 200 feet from lake, \$125 1 wk., \$200 2 wks. 213-375-2255.
- Apt**, 1-bdrm., unfurn., in Redondo Bch., cpts., dps., bitins., gar., \$150. 213-831-0453.
- Condominium**, Palm Springs area, furn., 2-bdrm., pool, \$100 wk., \$60 wkend. 213-327-8994.
- Mountain Home**, Big Bear City, 2-bdrm., bath, f/place, furn., \$35 wkend, \$100 wk. 213-823-1788.
- Vacation Cabins**, Idyllwild, 1 & 2 bdrm., stream, patio, f/place, \$30-\$40 wkend, \$70-\$90 wk. 213-868-8040.
- House**, on 5 acres, Big Bear Lake, 2-bdrm., f/place, furn., sleeps 8, \$100 wk., \$45 wkend. 213-325-8267.
- Cabin**, Lake Arrowhead, family only, \$125 wk., \$55 wkend. 213-831-1745.
- Apt**, 3-bdrm., 2 baths, cpts., dps., bitin stove, laundry facilities, walk to Northrop, \$200 mo. 213-674-1400.
- Cabin**, Moonridge, 3-bdrm., 2 baths, kit. utens., f/place, family only, \$125 wk., \$50 wkend. 213-326-7232.
- Apt**, 1-bdrm., furn. \$120, unfurn. \$110. 213-676-4734.
- Mature Woman** to share home w/same, 2 miles from Northrop, \$90 mo. 213-329-6728.
- Cabins**, Lake Gregory & Crestline, sleeps 6, \$65 wk. 213-821-8150.
- House**, 2-bdrm., lge. fenced back yard, gar., cpts., dps., \$175. 213-675-8739.
- Need working girl** to share lge. house, walking distance to Hermosa Bch., pet o.k., share utils., \$75 mo. 213-379-4641.
- Apt**, 3-bdrm., 3 baths, sub. gar., adult bldg., Inglewood, \$350. 213-670-6084.
- Cabins**, Big Bear Lake, completely furn., \$18 day, \$90 wk. 714-866-2548.

## Rentals Wanted

- House or apt**, 2-bdrm., w/yard, close to work, 3 people & 5 mos. old infant, \$150-\$175. 213-371-8768.

## Personals

My heartfelt thanks to the many Northrop friends who responded to the news of my wife Lula's illness and death. MARVIN W. SCHNEIDER

I wish to thank each & every one for the kind remembrances upon my retirement. CLIFFORD H. DILTZ

We wish to express our sincere appreciation for the kind expressions of sympathy regarding the loss of our son. TONY & LESSIE SPECIALE

I wish to extend my sincere appreciation & thanks to all my friends for their thoughtful gifts & kind wishes upon my retirement. JOSEPH L. STEVENSON

I wish to thank all my Northrop friends for their kind thoughts during my recent illness. JAMES WORTHAM

Many thanks to all my friends & co-workers for a happy retirement party. BARNEY EL-LIOTT & FAMILY

I wish to express my thanks for the kindness shown to me during my recent confinement in the hospital. KAROLL SHURTZ

To all my wonderful friends at Northrop, thank you for the great retirement party & gifts. GLENN S. CRAYK.

We wish to express our thanks for the flowers & expressions of sympathy in the passing of our husband & father, Newt Cook. SARAH & ED COOK.

Thanks for making an interesting summer enjoyable. I value the experience of working with you, & I wish you a prosperous and satisfying future. TONY KALAS.

## For Sale or Trade

- Acreage**, 2 1/2 acres, Lancaster near Fox Airport, \$8,995 or trade for 4-whl. dr. vehicle, plus cash. 213-645-2711.

## NORTHROP NEWS

Vol. 30

No. 9

Published monthly by Northrop Corporation Employee Communications.

**Managing Editor**, Rosemary Hussey;  
**Editor**, Ivy Edmonds, **Electro-Mechanical Division**; **Correspondents**, Marian Robinson, **Ventura Division**; Dale Albee, **Architectural Systems**; Peter Goodall, **Precision Products Department**.

Mailing address: Northrop News, 170/62, Northrop Corporation, 3901 W. Broadway, Hawthorne, Calif. 90250. Telephone: (213) 675-4611, ext. 4273.



## Golfers To Go To Rancho Bernardo

Golf Commissioner Bob Jones will lead a contingent of 40 golfers to Rancho Bernardo Sept. 23 and 24 for the annual two-day Ventura Division tournament.

Events will include several handicap flights for men, a separate flight for women golfers and a best ball tournament. Rancho Bernardo is located 10 miles south of Escondido.

## LAUNCH

(Continued from page 1)

Gasich delivered title of the vessel to George Gmelch, vice president of Operations for Pacific Far East Line. Pacific Far East Line, headquartered in San Francisco, has awarded Northrop a contract in excess of \$10 million to build 200 of the fiberglass units.

Key personnel of Northrop Hueneme Corporation, a wholly owned subsidiary, were provided by Northrop Ventura. Mr. Gasich, who is general manager of both the Ventura and the Aircraft Divisions, is president of Northrop Hueneme and L.B. Carroll, Jr., formerly of Ventura Division, is managing director. Other former Ventura Division executives include Robert Worth, chief engineer; Charles P. Hass, controller and manager of Finance; and Jack Bunnell, Factory manager. Northrop Hueneme reports administratively through the Northrop Ventura organization.

## NORTHROP AIDS

(Continued from page 1)

150 of the employees in fiberglass manufacturing techniques in order that they could qualify for jobs.

"We have provided both training and the opportunity for advancement," Mr. Herrera said. "Several of our former trainees now are in lead or supervisory positions."

The company has been complimented for its hiring policies by Gene Dick, manager of the Oxnard Human Resources Development Center.

"Northrop has worked very closely with the Human Resources Development Center and the community, including the Mexican American Opportunities Foundation," Mr. Dick said. "I feel that here is a company that is making our affirmative action program really work."

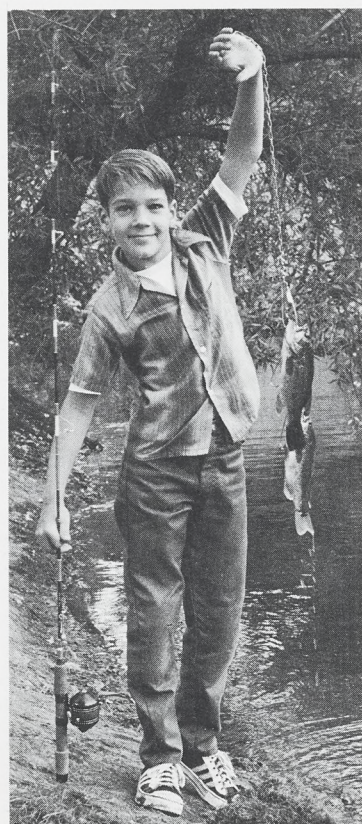
## NRC Family Picnic Highlights



**BOB BAKER MARIONETTE** Show entertains adults as well as children with the Purple People Eater puppet.



**EVERYONE** enjoys the pie-eating contest.



**GARY PRYCHODA** with only fish caught that day.



**DIRECT HIT** at Ron Bartley with water pistol.



**WILLIE ZACHERY** competes in the girdle race.



**'CHESTER'** the Stiltwalker doubled as clown.



**JOHNNY, RONNIE** and Danny Rowe take a boat ride.



# NORTHROP NEWS

VENTURA DIVISION EDITION

Published monthly by Northrop Corporation, Los Angeles, California

Vol. 30, No. 10

October 1972



WELKO GASICH, Aircraft Division general manager, left, introduces W. E. Woolwine, new general manager, to Ventura Division employees.

## Navy to Order Additional MK-30 Mod 1 Mobile Targets

The U.S. Navy announced its intent to award a contract to the Ventura Division for additional quantities of the MK-30 Mod 1—Anti-Submarine Warfare (ASW) mobile target.

In making the announcement, the Navy said Northrop's selection re-affirms a previous Navy decision to buy the MK-30 as a follow-on procurement for the year 1973.

Northrop Ventura presently is supplying the MK-30 target to the U.S. Navy under a \$10 million contract awarded in May of this year.

Three high ranking Navy undersea warfare officers visited Northrop Ventura recently for thorough briefings on the MK-30 undersea target program.

They were Rear Admiral Joseph Williams, Jr., assistant deputy chief of Naval Operations for Submarine Warfare, Rear Ad-

miral Walter Dedrick, manager of Torpedo MK-48 Weapon Systems, and Rear Admiral Jeffrey Metzel, director, Undersea and Strategic Warfare Development.

The briefings stressed the past contractual performance of the Ventura Division and the division's readiness to produce the MK-30 Mod 1. Also presented were the capabilities of the MK-30 Mod 1 to perform as a general ASW mobile target for the Navy, its production readiness and the outstanding performance and reliability record established by the MK-30 Mod O.

The Northrop-developed MK-30 is capable of simulating a full-scale submarine as a target for U.S. Navy anti-submarine warfare.

## EAGLE SCOUT ANNUAL DINNER

Northrop Ventura will sponsor the eighth annual Eagle Scout Recognition Dinner of the Ventura Boy Scout Council, to be held in the cafeteria Oct. 26, according to Paul Lawrason, who is in charge of arrangements.

Approximately 50 Eagle Scouts, each of whom will be the guest of a Ventura County business leader or government official, are expected to attend.

Assisting Mr. Lawrason are Rex Fairless, Lauren Persons, Warren Sparks and Frank Tipton.

## Woolwine is General Manager of Division

Woodrum E. Woolwine has assumed new duties as Corporate vice president and general manager of the Ventura Division. He previously was vice president of Engineering at the Aircraft Division. His appointment was announced by President Thomas V. Jones.

Donald D. Warner, previously vice president of Engineering at the Ventura Division, has moved to the Aircraft Division to succeed Mr. Woolwine as vice president of Engineering.

At Ventura Division, Mr. Woolwine succeeds Welko Gasich, who has been general manager of both the Ventura and Aircraft Divisions. When Mr. Gasich was appointed general manager of the Aircraft Division in 1971, he was asked to retain his previous position as general manager of the Ventura Division until such time as a new general manager could be appointed.

"Increasing opportunities in both divisions have now made it essential that the Ventura Division be headed by a general manager reporting directly to me as president of the company," Mr. Jones said. "Mr. Woolwine's experience and demonstrated per-

formance in many positions of management responsibility make him exceptionally well qualified to lead the Ventura Division. I am confident the division will experience continued success and growth under his management."

Mr. Woolwine joined Northrop in 1951 and has been vice president of Engineering at the Air- (See WOOLWINE, page 6)

## FLORIDA MEETING

Training and advanced underwater systems is the theme of the fall meeting of the American Ordnance Association's Underwater Ordnance Division at Orlando, Fla., Oct. 18-19.

Program for the meeting at the Naval Training Equipment Center was developed by a committee headed by Gus G. Duke, division secretary treasurer and Northrop Ventura Division representative in the Eastern Regional office, Arlington, Va.

Presentations cover mine warfare, advanced submarine sonar developments, laser induced underwater sound, anti-ship missiles, advanced ship concepts, advanced diving systems and comments on undersea warfare weapon systems.



BETTY JEAN PORTER, Credit Union manager, displays some of the prizes being awarded in monthly name drawings of new collateral loan applicants. The September winner was James Bamburg of the Paint shop, who chose the double thermos kit as his prize. Kenneth Erwin, Manufacturing, was the August winner of a set of Revere cookware, who, coincidentally celebrated his wedding anniversary on the day of the drawing, Aug. 14.

## MANAGEMENT CLUB MEETING

Nominations for 1973 officers are scheduled for the Management Club meeting at the Thousand Oaks Howard Johnson's Oct. 25.

Patricia Thompson, USC, will address the group on world problems through the eyes of a student and the Conejo Valley Harmony Oaks Chorus will entertain. Social hour is 5:30 p.m.



## Japan's F-5 Decision Has No Effect on Business, Employment

(Editor's note: The following was issued by Northrop in response to the recent news announcement regarding Japan's defense procurement plans.)

"The recent announcement by the Japanese Government not to buy F-5 aircraft will have no effect whatsoever on employment or business at Northrop. While the Japanese Air Self Defense Agency for several years has shown a continuing interest in acquisition of F-5 aircraft, Northrop itself has never considered any Japanese acquisition a serious possibility.

"It has long been known that the Japanese desire to build up its own aircraft manufacturing

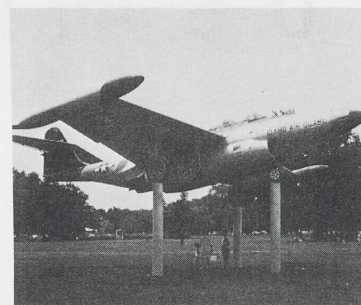
industry has been a number one priority. Consequently, any potential Japanese purchase of F-5s was never included in any of the company's business forecasts.

"To date, Northrop has firm orders from the U.S. Government and other Free World nations for the purchase of more than 300 F-5E aircraft. The company expects total F-5E sales to easily surpass the 650 mark and possibly exceed 1,000. At a unit price of \$1.6 million, total F-5E aircraft sales over the life of the program could have more than a \$1.5 billion impact on the U.S. balance of trade. Ground support equipment, spares and other related equipment could make the total impact

of the program considerably higher.

"As Northrop pointed out at the time of the F-5E rollout, the International Fighter program is expected to result in more than 12,000 additional aerospace industry and support jobs in the state of California alone. The recent Japanese Defense decision does not have any effect on either the company's sales or employment projections."

A Northrop spokesman pointed out that the 300 firm orders for the F-5E at the time of the aircraft's first flight was "unprecedented in recent U.S. military aircraft history."



"JUST LIKE OLD TIMES," writes Northrop retiree David Stadler, enclosing this picture of the F-89 Scorpion he took in a city park in Nampa, Idaho. Mr. Stadler, who was manager of Personnel, retired in 1964. The Scorpion was one of the planes Northrop built during his 22 years with the company.

## NADC To Study Louisiana Airport Plan

Northrop Airport Development Corporation (NADC), has been selected to help develop an airport systems plan for the state of Louisiana, including a study of whether there should be a new regional airport to serve both New Orleans and Baton Rouge.

The Federal Aviation Administration has approved a \$296,725

grant to the state of Louisiana, under the planning grant program set up in the 1970 Airport and Airway Development Act. Total cost of the study will be \$445,088.

Louisiana Gov. Edwin W. Edwards appointed Henry G. Grimbail, Metairie, La., architect, as coordinator-planner for the program and Mr. Grimbail selected

NADC to assist in developing aviation elements of the plan. NADC is a wholly owned subsidiary of Northrop Corporation.

The governor said the purpose of the statewide study will be to "insure effective location and development of airports and to encourage maximum potential growth for the economic well-being of the citizens of the state of Louisiana."

The study will determine the extent, type, general location, and timing of airport development needed in the state. A separate part of the study will be concerned with whether New Orleans and Baton Rouge should be served by a large regional airport in the future. This phase of the study will be completed within 60 days.

## ZONTA AWARDS

Zonta International, a service organization of executive women in business and the professions, has announced the Amelia Earhart Fellowship Awards to women for advanced study and research in the aerospace sciences. The \$3,000 grants will be awarded to best qualified candidates for assistance in the 1973-74 school year.

Applications must be filed by Jan. 1, 1973. Candidates or instructors wishing to recommend students, should write to: Zonta International, 59 E. Van Buren St., Chicago, Ill. 60605.

## COUNCIL PRESIDENT

Thomas V. Jones, Northrop president and board chairman, has been elected president of the Los Angeles World Affairs Council.

Mr. Jones succeeds Roy L. Ash, president of Litton Industries, who completed two successive one-year terms as council president.

Other officers selected to lead the council for the next 12 months are John V. Vaughn, vice president and treasurer; William H. Burgess, Lloyd N. Hand, Henry T. Mudd, and William French Smith, vice presidents; Mrs. Herbert Nootbaar, secretary; and J. Patrick Garner, executive director.

## Northrop Credit Union Announces Policy Changes

Once a member, always a member, makes it possible for all members, once qualified, to continue to use the services offered by the Northrop Credit Union. This is one of the changes to credit union policies announced by R. A. Lindsey, president of the Credit Union board of directors.

This change does not alter continued membership privileges previously extended to Northrop retirees. Also, former employee members and existing family accounts may continue their membership if they maintain a share account of \$5 or more.

In the event that this requirement is not met, their account will be closed after the end of the next dividend period. The dividend period ends Nov. 30 and is paid in January. Those with loans will be kept open until the loans are paid.



NO, THE F-5E IS NOT getting a traffic ticket. The Los Angeles Police Department patrol car is helping direct traffic past the Tiger II as the new plane is trucked past Los Angeles City Hall on its way to Edwards AFB where the International Fighter made its maiden flight August 11. (Photo by Jim Haddow)



# U. S. Air Force Celebrates 25th Anniversary



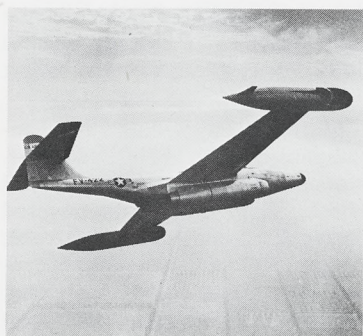
P-61 BLACK WIDOW



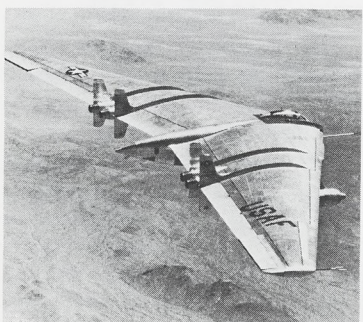
X-4 FLYING LAB



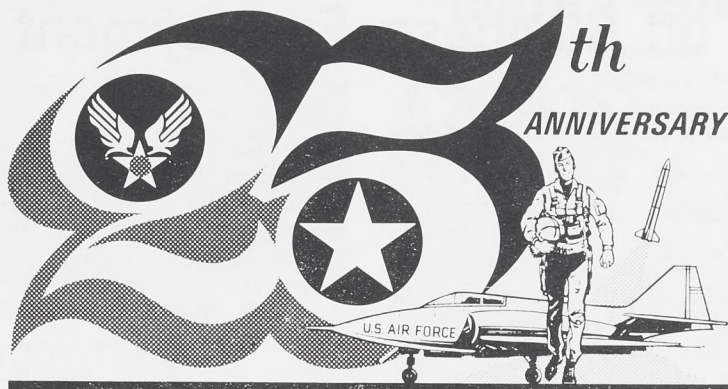
C-125 RAIDER



F-89 SCORPION



YB-49 FLYING WING



**UNITED STATES AIR FORCE**

**PRIDE IN THE PAST - FAITH IN THE FUTURE**

## Northrop Has Been AF's Partner for 25 Years

When the United States Air Force celebrated its Silver Anniversary in September, Northrop Corporation also celebrated its own 25th Anniversary as a partner of the Air Force in its vital role in the defense of the Free World.

The United States Air Force officially began on Sept. 18, 1947, when Chief Justice Fred M. Vinson administered the oath of office to the first Secretary of the Air Force, W. Stuart Symington.

At this time Northrop was very much a part of the nation's military aviation activities. The P-61 Black Widow, the first airplane built exclusively for night fighting, was still in the military inventory. The experimental XP-56, MX-324 Rocket Wing, the XP-79 Flying Ram, and the dramatic B-35 Flying Wing were pushing back the frontiers of flight, paving the way for the coming jet age. The Northrop F-15 Reporter, a reconnaissance version of the Black Widow, and the N-23 Pioneer, a husky, short-field transport, were also serving the new Air Force.

In the critical years that followed, Northrop supported the Air Force with the X-4—a miniature flying laboratory; the F-89 Scorpion, first twin-jet, all-weather interceptor; and the C-125 Raider, three-engine transport for airborne assault and rescue aircraft.

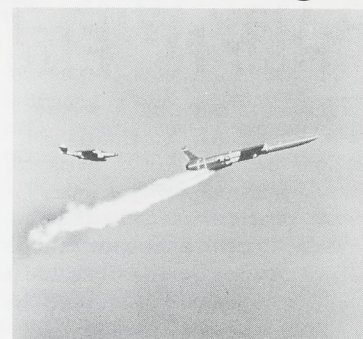
Northrop then joined the Air Force in moving into the missile age with the SM-62 Snark, the first intercontinental guided missile. The highly successful Snark program was followed by the T-38, the Air Force's first supersonic jet trainer which introduced a new era of pilot training. Then the F-5 became the first U.S. fighter aircraft designed for Military Assistance Program countries.

Next Northrop program for the Air Force was the X-21A Laminar Flow Control test aircraft which demonstrated Northrop's laminar flow system which reduced turbulence and increased range of long range aircraft by as much as 75 per cent.

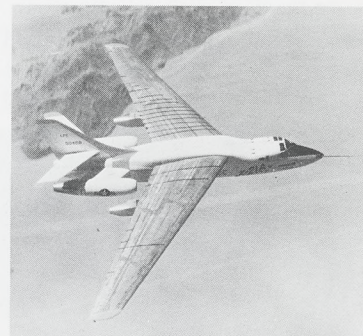
Today, as the Air Force flies into its second quarter century in the defense of the nation, Northrop is still very much a part of the team that keeps these defenses strong.

The Northrop Lightweight Fighter and the A9-A close support aircraft are being built for a competitive fly-off with General Dynamics and Fairchild.

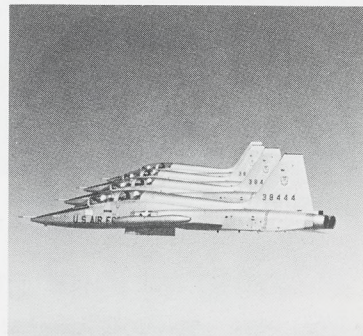
The Lightweight Fighter is designated the P-600. It is a twin-engine, high-performance aircraft powered by two General Electric YJ101 turbojet engines. The A-9A aircraft is a rugged twin-engine, single-place aircraft with short takeoff and landing capabilities. It carries varied payloads and is capable of long loiter time over target areas.



SM-62 SNARK



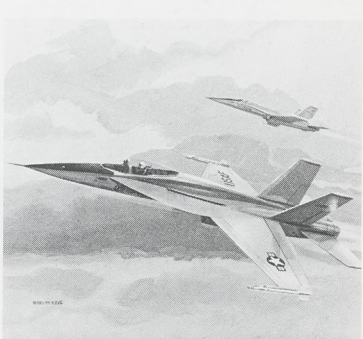
X-21A LAMINAR FLOW



T-38 TALON



A-9A CLOSE SUPPORT



LIGHTWEIGHT FIGHTER



## Exchange Student Spends A Day With 'Foster Father'

Christian Guitton, a 17-year-old French Exchange Student, spent a day with his "foster father," Ora A. Patton, learning how Northrop tests engines for the F-5E.

Christian came from Thouras, France, to attend Palmdale High School as a senior under a student exchange program sponsored by the American Field Service.

The American Field Service is devoted to improving the relationships, understanding and communication between the United States and foreign countries. It is a private organization supported

by donations and community work projects.

Christian will live with Mr. Patton, his wife Bobylea and their four children during his year in the United States. As the "get acquainted with America" part of the program, he spent a day with Mr. Patton on the job at Northrop.

Mr. Patton is an experimental flight test crew chief with the Engine Runup section at the Aircraft Division's facility at Edwards Air Force Base, and Christian watched runup tests on the J85-21 engine for the new Northrop F-5E.



ORA PATTON, RIGHT, shows exchange student Christian Guitton how Northrop tests the J85-21 engine for the F-5E.

## FIRST FLIGHT COVERS AVAILABLE

The NRC Stamp Club has flight covers of the F-5E Tiger II first flight on sale at Aircraft Division Personnel Activities.

The covers were placed aboard the F-5E on its maiden flight at Edwards AFB in August. The envelopes have an imprinted cachet, which is a photograph of the aircraft in flight, and bear an

11-cent air mail stamp cancelled at Edwards. Statistical data inserts are part of the package.

The covers are 35 cents each or three for \$1 on a first come, first served basis.

Fact inserts on the A-9A are available for those who purchased that previously issued first flight cover.



JOYCE OSHIRO, left, and Marge Rudluff, Aircraft Division, are trying to decide whether to set the clock back or forward when Daylight Saving Time ends on Oct. 29. So, to be on time for work Mon., Oct. 30, be sure and set your clock back one hour.



THE MAJKAS ON THEIR 1,000-MILE AFRICAN TOUR.



## DO-IT-YOURSELF SAFARI

### Hard Way to See Africa

Matt Majka, Electro-Mechanical Division and his family saw Africa the hard way—in a do-it-yourself safari.

As part of a round-the-world trip they rented a VW bus in Nairobi, Kenya, and started trekking through the wilds without guides and with only a vague idea of where they were going.

"The first I realized we might be undertaking something foolish," he recalled, "was when I told the man who rented us the bus where we were heading. He gave me a thoughtful look and turned to his assistant. 'Better throw in some extra spares,' he said."

He thought they could just follow the roads. The roads proved to be deep rutted dirt that dwindled to nothing in places. At one point all he could find was a single set of tracks cutting across an area of thick grass.

"On the way we almost ran over a lioness with some cubs. She wasn't happy with us at all, and said so with an angry roar. While we went through five national parks and game preserves, we saw more animals outside the preserves than inside," he said.

They went north toward Mount Kenya and then circled back, crossing the equator twice, to Kilimanjaro. The entire route cov-

ered 1,000 miles. During this time they passed through only four towns.

"You are really on your own in the back country," Matt said. "If you get lost, that's your tough luck. For stretches of at least 60 to a 100 miles, we saw no people, only animals."

Once they did get lost. He kept driving around until he saw some mud huts with thatch roofs. They were Kenya back country Masai warriors and none could speak English. From here they kept driving with no idea where they were going or where they were, until they met a British hunter. He looked and sounded like something out of a movie, but he knew the country and was able to get them on the right road.

#### Bad Roads

Their greatest difficulty was climbing the mountains. In addition to bad roads, the engine of their bus starved for air in the high altitudes. "I thought several times I was going to have to get out and push," he said.

Matt and Faye Majka were accompanied by their daughter, Marsha, and her husband, Bill Lueck. Their entire trip covered Portugal, Spain, Italy, Greece, Africa, Ethiopia, Bangkok, Singapore, Australia, and Hong Kong, but of it all they remember best their 1,000-mile do-it-yourself safari in Africa.

## HAWAIIAN HOLIDAY

The Northrop Travel Club has scheduled a meeting for tomorrow evening, Oct. 19 at 7:30 p.m. in the Plant Three cafeteria to discuss the yearend holiday trip to Hawaii, it has been announced by Jeanne Andrecht, Travel Club commissioner.

The club tour departs Dec. 23 and returns Jan. 1. During the 10-day period they will visit four islands. The cost is \$376.

A \$50 per person deposit is required with the balance due by Dec. 6.

## SPACE FAIR

The thirteenth annual Space Fair will be held at Point Mugu Oct. 21, 22, and 23, according to Navy Space Fair officials.

Center of the activity will be a 40-acre midway featuring exhibits covering all facets of aerospace programs in the United States today, including a moon rock and many of the nation's newest and fastest aircraft.

Admission is free.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Volkswagen**, 1968 squareback, r/h, \$1,050. 213-375-9397, 213-375-2091.

**Volkswagen**, 1968 Fastback, \$900. 213-763-7128.

**Volkswagen**, T Body, fiberglass, new tires & top, ap.p. whls., \$1,500. 213-328-7534.

**Volkswagen Camper**, 1972 Westphalia, 16,000 mi., radio, \$3,450. 213-375-3632.

**Chevrolet Van**, 1967, new eng., \$1,200. 213-679-8397.

**Ford**, 1971 LTD Brougham, 17,500 mi., AM-FM stereo, a/c, p/s, p/b, \$3,300. 213-926-7624.

**Pinto**, 1972 Runabout, many extras, \$2,150. 714-827-2908.

**Corvette**, 1966 Stingray Fastback, 427 cu. in., new eng., p/w, p/b, 4-spd., \$1,900. 213-896-9369.

**Fiat**, 1971, \$1,350. Box 1001.

**Ford**, 1968 Bronco, 4-whl. drive, C.B. radio, \$2,100. 213-881-4753.

**Rambler**, 1960 American, auto. trans., 6, \$150. 213-329-2330.

**Dune Buggy**, Corvair pwr., auto. trans., extra eng., trans. & transaxle, \$500. 213-928-3237.

**Motorhome**, 20' Pride-N-Joy, on 1972 Dodge chassis, self-contained, sleeps 6, auto. trans., p/s, p/b, a/c, \$9,675. 213-679-0710.

**Truck**, 1968 Chev., 8' o/cab camper, 27,000 mi., a/c, p/b, p/s, r/h, 6-ply tires, \$2,795. 213-676-5219.

**El Camino**, 1959, \$550. 213-676-0935.

**Station Wagon**, 1972 Gran Torino, a/c, p/b, p/s, \$3,500. 213-382-5575.

**Chevrolet**, 1968 Impala SS, all power, a/c, \$1,300. 213-372-1778.

**Dodge Dart**, 1966, \$650. 213-679-3275.

**Toyota**, 1970 Corona, auto., a/c, 50,000 mi., \$1,550. 714-892-7174.

**Chevrolet**, 1965 Supersport, auto., console, p/s, p/b, r/h, \$500. 213-679-3889.

**Pontiac**, 1967 GTO, a/c, 8-track, \$1,600. 213-377-6658.

**Chevrolet**, 1966 van, camper equipped, bed, ice box, AM-FM radio, \$1,150. 213-670-5486.

**Volkswagen**, 1963 delux camper van, 1500 eng., side tent, ice box, sunroof, \$1,150. 213-391-5046.

**MG Midget**, 1968, h/top, wire whls., heater, tonneau, \$1,000. 213-672-8490.

**T-Bird**, \$1,500. 213-677-8410.

**Dune Buggy**, 1972 Corvair pwr., new tires & top, st. licensed, \$1,000. 213-831-0057.

**Street Buggy**, full length VW, f/glass body, h/top, \$900. 213-645-3381.

**Station Wagon**, 1969 Caprice Kingswood Estate, \$2,250. 805-498-2721.

**Austin America**, 1969, 4-spd. auto., \$690. 213-644-1690.

## Miscellaneous For Sale

**Corvette 3rd Member**, 4.56 positraction, \$80. 213-341-5807.

**Ranch**, 20 acres, w/house, 4-car gar. at Reedley, Calif., mile from Kings River, hr. from Sequoia Nat'l. Pk., \$32,000. 213-674-5953.

**Gun**, P38, 9MM, 1943 by Mauser, matching s/n & parts number, \$125. 213-676-5787.

**Bicycle**, 20" wheels, incl. training whls., \$10. 213-675-6397.

**House**, 3-bdrm., den, 1 1/4 baths, cpts., dps., landscaped, 5% or 10% dn., Holly Park area, \$29,950. 213-321-9658.

**Wheels**, split rim, 5, for 1/2 ton Ford pickup, fit 7.00x15 tires, \$125. 213-644-2941.

**Coffee Table**, w/2 end tables, rectangular no-mar, \$50. 213-374-7625.

**TV**, RCA color, console, \$150. 213-866-4104.

**Mobile Home**, 20x57 1/2 Royal Lancer, adult park, Torrance area, \$12,750. 213-830-5024.

**Table**, maple, 40" dia., \$10. 213-376-4831.

**Mobile Home**, 10'x46' w/30' add on, cpts., bltins, \$5,500. 213-534-3968.

**Bar**, 8', maple, 4 stools, \$450. 213-679-6782.

**Boat**, 15' Wizard fbr. gls., 35 h.p. Merc. Thunderbolt ign., trailer & access., \$600. 213-324-1908.

**Tape Recorder**, Akai Roberts M-7, 4-track stereo, \$150. 213-645-6494.

**Humidifier**, \$50. 213-677-0518.

**Houses**, 2 2-bdrm., frame stucco on lge. 60x150 R-3 lot, in Harbor City, fenced ind. yds., gars., \$36,500. 213-326-5566.

**Air Conditioner**, window-type, Westinghouse, 14,000 B.T.U., 110 V.A.C., used less than 3 mos., \$160. 213-531-3872.

**Trailer**, for hauling motorcycles, \$25. 213-671-0357.

**Patio Table**, 4 benches 42" square, redwood, \$15. 213-530-3432.

**Piano**, Howard spinet, walnut, \$500. 714-826-2094.

**Motorcycle**, 1966 Honda Super Hawk, 32 h.p. 338 cc, \$175. 213-547-4141.

**Knife**, elec., Hamilton Beach, \$5. 213-370-5031.

**Shotgun**, 20 ga., w/choke, bolt action, Moss-burg, \$40. 213-644-3125.

**Mini-Bike**, 1971 Flexo Big Bear Scrambler, 3 h.p., \$100. 213-322-6203.

**Motorcycle**, 1970 Honda 350, custom forks, many extras, \$650. 213-670-2098.

**Cornet**, Olds, \$75. 213-325-1190.

**House**, lge. 2-bdrm. & family rm., cor. lot, \$31,900. 213-675-4597.

**Air Brush Outfit**, Thayer Chandler Mod. A brush, CO2 tank, reg., hose, \$35. 213-599-7009.

**Dog**, St. Bernard, female, AKC, 10 mos. old, shots, \$100. 213-834-1812.

**Air Conditioner**, Rheem, 5-ton, 2 blowers, condenser & venting, \$800. 213-679-3739.

**Piano**, Starr, upright grand, \$200. 213-371-2129.

**TV**, b&w console, 21", \$59. 213-325-5245.

**Sewing Machine**, portable, \$35. 213-677-7421.

**End Tables**, walnut, \$10 ea. 213-541-3000.

**Pups**, Springer Spaniel, AKC, \$75. 213-370-9558.

**Tires**, tubeless, 4, 13" rim, \$20. 213-831-5304.

**Motorcycle**, 1972 Yamaha, 100 Enduro, under 50 mi., \$395. 714-925-7365.

**Bicycle**, 10-spd., w/generator, 6 mos. old, \$55. 213-325-8932.

**Boat**, 16' Utility, 35 h.p. Evinrude, lge. wheel trailer, \$400. 213-379-5592.

**Home**, Hermosa Bch., w/upstairs bdrms., rear gar., basement, other items, \$36,900, Box 1002.

**Cassette Car Stereo**, player, recorder, 8 tapes, 2 spkrs., \$75. 213-291-6075.

**Motorcycle**, 1972 Harley-Davidson Sportster, semi-custom, 1,500 mi., \$1,800. 213-530-5076.

**Drafting Machine**, Bruning 2700 w/Dazor lamp, \$80. 213-677-6204.

**Dryer**, elec. G.E. Delux, \$65. 213-530-3666.

**Bicycle**, 26" 3-spd., drop handle bars, other access., \$35. 213-542-6716.

**Storage Cabinet**, sheet metal w/5 shelves, 8'h.x3'w.x2' deep, \$25. 213-323-3528.

**Acreage**, 2 1/2 acres, Antelope Valley, water & elec. to prop. cor., \$400 dn., \$45 mo., 7%, \$4,950. 213-378-1026.

**Motorcycle Trailer**, hvy. duty, hauls 3 bikes, \$100. 213-323-2358.

**Voltmeter**, vacuum tube-type, RCA Senior volt ohmyst w/probes, \$25. 213-363-2630.

**Surfboard**, 6'10", \$50. 213-374-8608.

**Dining Room Chairs**, 6, \$54. 213-860-3022.

**Couch**, 7', brown, \$50. 213-377-5935.

**Travel Trailer**, 26', 1969 Monitor, Eastern coach, self-contained, sleeps 6, 17' awning, \$3,700. 714-842-4688.

**Kitchen Stove**, w/see through oven, \$30. 213-939-8053.

**Stereo Console**, 6' Med. style, Fisher 500 rcvr., 2 12" spkrs., Garrard changer, \$190. 213-392-1447.

**Boat**, 10', fiberglass, 5 h.p. motor, oars, \$150. 213-671-1660.

**Rug Shampooer**, Shetland-Lewyt, floor polisher & Regina electricbroom, used twice, \$20 ea. or \$35. 213-644-3922.

**Ping Pong Table**, 3/4" table, fold up w/casters, access., \$50. 213-675-4239.

**Saxophones**, 2, alto & tenor, \$100 ea. 213-423-1363.

**Baby Bed**, swing, other items, \$50. 213-675-6020.

**Chain Saw**, McCulloch Mini-Mac 6, \$135. 213-370-0824.

**TV**, 21" b&w, Packard Bell console, \$15. 213-374-8645.

**Oven**, AMC bake & broil, used once, \$15. 213-326-0340.

**Dresser**, 4-dwr., \$10. 213-679-5177.

**Wall Mirror**, 36"x48", \$40. 213-675-1000.

## Miscellaneous For Sale

**House**, 2-story, 3-bdrm., extra lge. den, cpts., cov. patio, near new Carson shopping mall, \$33,900. 213-635-7942.

**Luggage Rack**, lge. roof-type, canvas bag, \$15. 213-375-8536.

**Crib**, \$8. 213-676-0666.

**Communications Receiver**, Hallicrafters SX-99 all-wave, \$40. 213-377-4623.

**TV**, portable, b&w all-channel, stand, Emerson, \$40. 213-329-6091.

**Day Bed**, \$15. 213-324-7059.

**Hobie Cat 16**, 1972 w/trlr., fully equipped, \$1,700. 714-826-6065.

**Living Room Set**, 6-pc. Danish modern, \$35. 213-831-1745.

**Bowling Shoes**, ladies, size 5 1/2-6, \$4. 213-360-0604.

**Bicycle**, boy's, Schwinn, 20" Stingray & surfboard, 8'10" Greg Noll, \$30. 213-378-2790.

**Boat**, 1971, 15 1/2', 650 Merc. motor w/approx. 50 hrs., all C.G. approved, many extras, trailer, used 1 season, \$2,300. 213-835-5377.

**Crib**, white, \$15. 213-378-6415.

**Aquarium**, 10-gal., w/all equipment, \$18. 213-327-6918.

**Piano**, upright, oak finish, \$175. 213-498-2300.

**Parts** for Renault dune buggy, eng., trans-axle, front end, tube frame, whls., \$80. 213-821-9110.

**Skis**, Kastle CPM spec. 200 mm w/poles, Lang boots, size 10 m., \$125. 213-973-0367.

**Tripacer**, 150 h.p., annual done 8-72, eng. 1180 hrs. s.m.o.h., Narco MK-12A & VOA-4, full panel, \$4,100. 213-834-1882.

**Motorcycle**, 1971 Triumph Bonneville, 650 cc, take over pymts., \$1,100. 213-370-6611.

**Piano**, upright, modern refinished, \$170. 213-696-7529.

**Chairs**, Sheffield, moss green velvet, 1 is swivel rocker, \$180. 213-644-4656.

**Record Player**, console, stereo & radio, w/extra spkr., \$60. 213-638-8250.

**Skis**, Head, 2 pr. w/bindings, \$25 pr. 213-530-4207.

**Home**, tri-level, 4-bdrm., 3 bath, 2,009 sq. ft., copper plumb., bltins, 6 yrs. old, 9 mi. from Northrop \$42,950. 213-534-0346.

**Sleeper-sofa**, 7', \$50. 213-377-9723.

**Divan**, & chair, rock maple w/matching end & dropleaf table, \$125. 213-679-3832.

**Chair**, uphol. w/lemon yellow Chinese pattern, almost new, \$50. 213-326-0124.

**House**, Hollypark 3-bdrm., 2 bath, den, rum-pus rm., block to school, \$30,950. 213-329-9510.

**Wheels**, 2 chrome, slotted, 15x5.60 4 ply tubeless tires, fit GM cars, \$48. 213-833-3944.

**Kittens**, Siamese, avail. Oct. 23, Sealpoints, \$15. 213-679-8095.

## Wanted to Buy

**Flying Gear**, WWII, helmets, jackets, uniforms, both Allied & Axis. 213-375-4312.

**Rear Bumper**, & right hand quarter panel for 1965 Ranchero. 213-328-3306.

**Photo Enlarger**, 35mm developing & printing equip. 213-326-9156.

**Tool Chest**, 6-10 drwr., machinist-type, reasonable. 213-323-4257.

**Stove**, pot belly or wood burning. 213-676-3050.

## Free (To Be Given Away)

**Pup**, mixed Huskie, 10 wks. old. 213-834-7716.

**Pup**, cocker spaniel & collie, 12 wks. old, female, white. 213-830-6956.

**Pups**, 3 f., 7 wks., 6 m., 5 wks., mixed cocker, doxie & lab., parents under 25 lbs. 213-375-7978.

## Rentals Offered

**Apt**, 1-bdrm., close to Northrop, comp. furn., enc. carport, \$145 mo. 213-673-2787.

**Apt**, 1-bdrm., unfurn., sub. parking, pool, 10 min. to Northrop, Lawndale, \$150. 213-679-5584, 213-670-6084.

**Cabins**, Lake Gregory & Crestline, sleeps 6, \$65 wk. 213-821-8150.

**Cabin**, Big Bear, Moonridge, sleeps 4, family only, \$75 wk., \$30 wkend. 714-528-2810.

**House**, 2-bdrm., 1 1/2 tile baths, bltin stove, new cpts., enc. gar. w/storage space, unfurn., \$190 mo. 213-679-5780.

**House**, 1-bdrm., bltin stove & refrig., cpts., dps., carport, gar., 3/4 mi. from Northrop, no pets, adults only, \$155 mo. 213-532-1190.

**Cabin**, near Lake Arrowhead & Running Springs, sleeps 4-5, \$35 wkend, \$90 wk. 213-370-7105.

## RECORD CHECK

Northrop Credit Union statements of accounts were distributed recently along with the auditor's notice of record verification.

Members who did not receive them are asked to contact John B. Knight & Co., 2926 Santa Monica Blvd., Santa Monica, CA 90404. Queries should include the member's name, address, account number and mention of Northrop Credit Union.

## Rentals Offered

**Cabin**, Moonridge, 3-bdrm., 2 baths, family only, \$125 wk., \$50 wkend. 213-326-7232.

**Condominium**, 2-bdrm., Palm Springs area, furn., \$100 wk., \$60 wkend. 213-327-8994.

**Cabin**, Lake Arrowhead, No. Shore, pvt. dock, \$125 1 wk., \$200 2 wks. 213-375-2255.

**Cabin**, Big Bear, f/place & f/a, cpt., golf, ski, \$20 day, \$100 wk. 714-595-3968.

**Vacation Home**, Bass Lake, \$150 wk. 213-374-3702.

**Cabin**, Green Valley Lake, \$45 wkend. 213-320-2002.

**Mountain Home**, Big Bear City, 2-bdrm., furn. incl. linens, \$35 2 nights, \$100 wk. 213-823-1788.

**Mountain Home**, Big Bear Lake, 2-bdrm., furn., all utils., sleeps 8, \$100 wk., \$45 wkend. 213-325-8267.

**Apt**, 2-bdrm., furn., utils. pd., walking distance to Northrop, \$185 mo. 213-644-0011.

**Apt**, 2-bdrm., unfurn., cpts., dps., bltins, pool, adults, no pets, \$160 mo. 213-325-2512.

**Apt**, 2-bdrm., unfurn., 2 bath, gar., Inglewood, \$225 mo. 213-291-7392, 213-552-1985.

**House**, 3-bdrm., unfurn., 1 yr. lease, \$210 mo. 213-425-6221.

## Personals

**My family & I** wish to express our thanks for the flowers & expressions of sympathy at the time of the death of my sister, Phyllis Simon. MARION ST. AMANT.

**Our sincere appreciation** for the beautiful flowers & kind expressions of sympathy on the recent passing of our beloved son, Richard. MR. & MRS. JUNJI SARASHINA & FAMILY.

**Would like ride to & from Northrop**, especially ride home, 7:30 a.m.-4:30 p.m., live in Hermosa Beach, will help pay for gas. Air Force office ext. 1948.

**Interested in car pool**, 7:30 a.m.-4:12 p.m., from vicinity of Buena Park-Cypress-Los Alamitos area. 714-827-1082.

**My sincere thanks** for your help & expressions of sympathy during the prolonged illness & passing of my husband, Bill. LOU HIGBEE.

**To our many friends** at Northrop, our sincere appreciation for the floral tribute & the many kind words of sympathy at the recent death of my mother. LYLE CLAYPOOL FAMILY.

**Ride wanted**, 7 a.m.-3:42 p.m., West L.A. near Venice & Centinella. 213-390-3761.

**I want to thank** all of my friends at Northrop for their thoughtfulness during my recuperation from my accident. NANCY DICK.

**My deep appreciation & thanks** to all my friends & co-workers at Northrop for the lovely luncheon, gifts & good wishes upon my retirement. DOLORES MOOR.

**To all of you** who made my retirement such a beautiful, memorable occasion, I wish to express my deepest appreciation. VIOLA HANSEN.

**I wish to express** my sincere thanks to all my Northrop friends & co-workers for the wonderful retirement party & gift. GERTRUDE LEHMAN.

**Thanks** for the memories. W. H. BUSTER.

**Thanks to all my friends** at Northrop for making the time spent here a time to remember & for the gifts upon retirement. Try it, you'll like it. BOB BLAKENEY.

**I wish to express** my sincere appreciation & thanks to all my friends at Northrop who gave me a wonderful retirement party & gifts. ROBERT S. LUXTON.

**Dog**, peek-a-poo, 1 yr. old, seeks company of Pekingese or poodle lass. 714-531-6738.

## For Sale or Trade

**Boat**, 13', oars, anchor \$65 or trade for 8mm movie equipment. 213-371-5072.

**Tuner**, Harmon Kardon AM-FM, 10 W. amplifier, 15" coaxial spkr. mounted, \$100 or trade for arc welder. 213-545-7149.



## Credit Union Sets Record Buying Loans

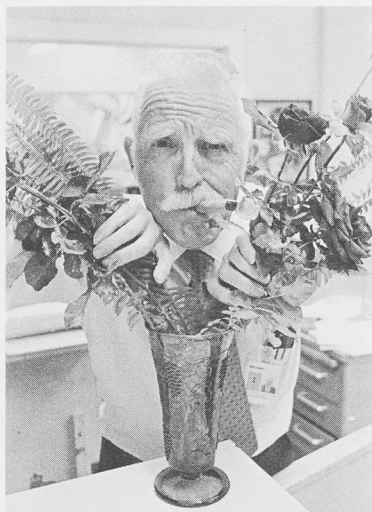
The safety of Credit Union deposits was emphasized in the recent liquidation of Teller Industries of Newbury Park. And by assisting in the processing and continuation of Teller Industries Credit Union loans, your Northrop Credit Union stands to make a profit from interest payments due on those loans.

In similar cases, the National Credit Union Administration (NCUA), which insures federal credit unions across the nation, refunds the deposits and pays back the loans to defunct credit union shareholders, later collecting payments for the loans from the individual debtors. The whole process can take several months.

In the Teller case, your Northrop Credit Union bought all the loans, and made refunds to depositors within one week—an unheard-of feat.

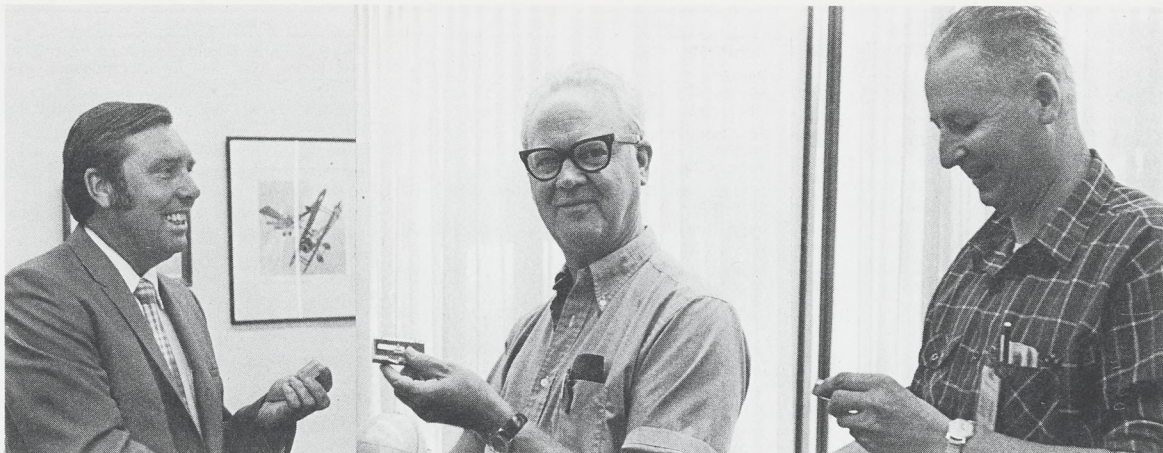
NCUA still insures the loans (now being repaid to the Northrop Credit Union rather than Teller's) and the interest payments are contributing to the dividends which will be declared for Northrop shareholders.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**



### WONDERS NEVER CEASE . . .

Curly Martin, manager of Arts and Graphics, expert photographer, ex-military pilot, raconteur, judge of beauty contests, and stalwart citizen, has even another claim to fame. He raises roses. And to prove it, he regularly surprises one of the secretaries at Ventura Division with a bouquet, such as the one shown here.



**JOHN EVANS**, vice president, Manufacturing, bottom left, recently presented 25-year service awards to five division employees. At the top are Don Peterson, Earl Larsen and Fred Steiger receiving their emblems certifying a quarter century of service. At the bottom, Vernabell Bloom, left, and Rod Hoover, receive their honors.



## Seminars at Cal Lutheran

Northrop Ventura executives are joining with representatives of other firms in the Thousand Oaks area in conducting an unique Business Leaders/Students seminar at California Lutheran College.

The 12-session seminar is being held each Wednesday night. Warren Sparks, manager of Production and Inventory Control, is coordinating Northrop Ventura participation in the provocative discussions of business men and students in solving the dilemmas of today's society.

Two or three representatives from Northrop Ventura will participate in each session. Persons interested in participating in the seminar should contact Mr. Sparks at ext. 1448.

Monitoring the seminar for California Lutheran College is Dr. John Cullen, head of the department of Economics and Management.

### STARS ON EXHIBIT

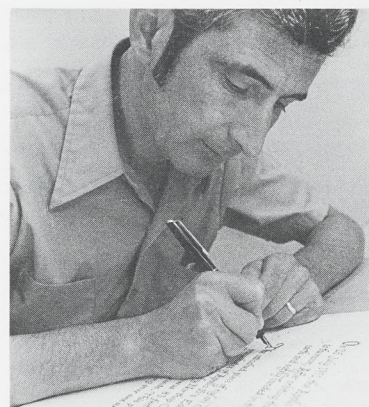
Ventura Division's new STARS concept proved to be a stellar attraction at the Association of the United States Army (AUSA) annual convention and exhibit in Washington, Oct. 9 through 11.

STARS, which stands for Surveillance, Target Acquisition and Reporting System, was displayed for the first time in a 70 foot by 8 foot booth divided into four sections.

John Flores, manager of Engineering Airborne Operations, said the STARS concept has been designed to provide the Army with the most accurate and reliable remote airborne information gathering system now available.

The exhibit was the project of Darrel Welch, EAO Electronics manager. Key Ventura Division personnel helping make the exhibit a success were Joe Murphy, technician; Les Myers, Engineering Laboratory; Jack Lee, Shop; Joe Pulver, Shipping, and Arnold Kent, Operations Analysis, and Dick Bigbie, Aircraft Division.

## On The Job



**MORT MILLER**, graphic artist, does art lettering for a presentation brochure. Mr. Miller has been with the Ventura Division for the past five years.

### WOOLWINE

(Continued from page 1)

craft Division since May 1969. He had previously held a number of important management positions. He has also served as director of Engineering Project Management and has a strong background in mechanical and structural design engineering.

Mr. Woolwine is a graduate engineer of the Georgia Institute of Technology. In addition he has completed a number of special technical and management-educational programs, most recently the Executive Program at the Stanford Graduate School of Business.



# NORTHROP NEWS

VENTURA DIVISION EDITION

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## Suggestion Contest Now Under Way

Ventura Division employees have an opportunity to add to their Christmas stockings via participation in "Operation Save-On," according to Walt Claycomb, Suggestion Awards coordinator.

"Six prizes ranging from \$200 for first, to \$50 for sixth will be given to the employees submitting the most suggestions between Nov. 13 and Dec. 15," Mr. Claycomb said.

He further explained suggestions must be of a constructive nature, non-repetitive and with reasonable implementations as determined by the Suggestion Awards committee. Suggestions need not be adopted to win, though all accepted suggestions will receive awards.

Other rules for "Operation Save-On" include that during the contest, one employee name per suggestion for count credit; one employee may not receive more than one prize; and in event of ties, winners will be named by the committee based on suggestion values.

## W. C. 'BILL' ATHAS IS NEW DIVISIONAL REP

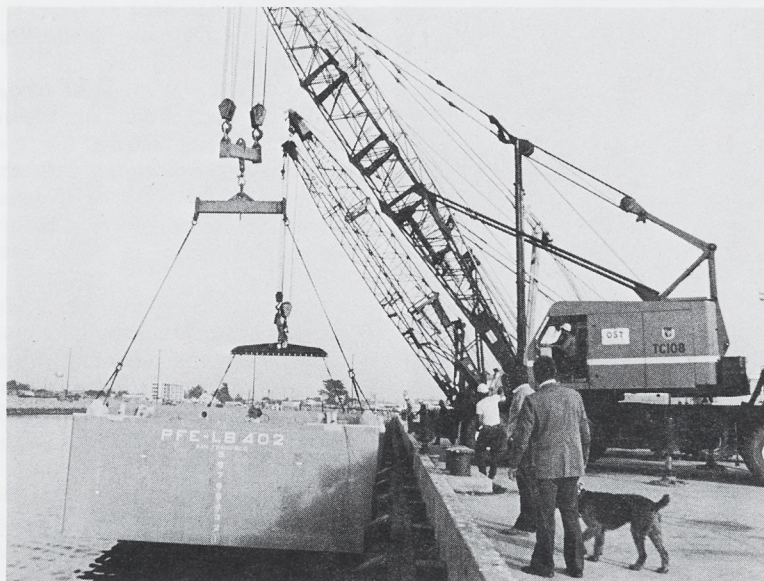
William C. "Bill" Athas recently joined the Ventura Division as a senior customer requirements representative to the Air Force.

He is responsible for the direction, conduct and support of all divisional programs in the areas of Remote Pilot Vehicle Technology and weapons system operation as assigned by the manager of Customer Requirements.

Prior to joining Northrop, Mr. Athas was deputy director of Advanced Development and Concepts for the Grumman Aerospace Corporation. A veteran command pilot, he served 22 years in the Air Force.



Mr. Athas



**LASH LIGHTER** is gently lowered into the water at Port Hueneme by giant crane after lighter was completed by Northrop Hueneme. Two of the fiberglass lighters were delivered to Pacific Far East Lines last week with more scheduled for delivery shortly.

## Prized Aztec Award Goes To Hueneme's Andres Herrera

Surprised and proud recipient of a coveted Aztec Award at the Fifth Annual Aztec Awards Banquet sponsored by the Mexican-American Opportunity Foundation was Andres Herrera, Northrop Hueneme director of Personnel.

The banquet was held at the Century Plaza Hotel, Oct. 26, with more than 1,100 guests attending.

Aztec Awards are given annually to those individuals whose vision, support and leadership have been outstanding in support of the Mexican-American Opportunity Foundation during the past year.

Mr. Herrera first joined Northrop last January and since then has played a key role in the recruitment, training and employment of minority individuals at Northrop's Hueneme plant where fiberglass LASH lighters are manufactured.

(See photo, page 6)

A native of nearby Oxnard, Mr. Herrera attended UCLA where, in addition to obtaining his degree, he starred as a defensive halfback in the Bruin football team. He has also been associated with NBC and with California State University at

Northridge where he was an associate professor for academic support services.

In addition to Mr. Herrera and his wife, others from Northrop attending the banquet included: Messrs. and Mmes. Bill Kearney, Harry McLaughlin, Marion Marlin, John Calderon, Robert Magana, Rafael Armijo, Richard Alvarado and Al Campbell.

## Rod and Gun Club Venison Dinner Is Half Assured

One winner of the Rod and Gun Club's annual Deer Hunt Drawing already has his deer.

When associate member Bill Connelly bagged his deer near Lake Nacimiento recently, it guaranteed at least half of the big Venison Dinner the club has each year. Now, all Pat and John Rowe have to do is to get their deer.

Both Pat Rowe and Mr. Connelly were winners in the annual drawing with the club contributing \$75 to each to help defray their hunting expenses. In return, the club gets half of the deer to be used for the annual Venison Dinner.

## Hueneme Delivers Two More Barges

Delivery of two additional LASH fiberglass lighters to Pacific Far East Lines has been made by the Northrop Hueneme Corporation at Port Hueneme.

Lighters 401 and 402 were launched into the waters of Port Hueneme on Monday, Nov. 6. There, they joined Lighter 400 and were later taken in tow to San Pedro where they will be placed aboard a PFEL freighter.

Northrop Hueneme has a contract in excess of \$10 million to build 200 of the lighters for Pacific Far East Lines. The lighters are giant barges used in the revolutionary new maritime cargo handling system known as LASH which means "Lighter Aboard Ship."

L. B. Carroll, Jr., Northrop Hueneme managing director, said the lighters will continue to be delivered several times a month for the next few months in lots from four to 10.

## Joe Dilley New Chairman of Safety Committee

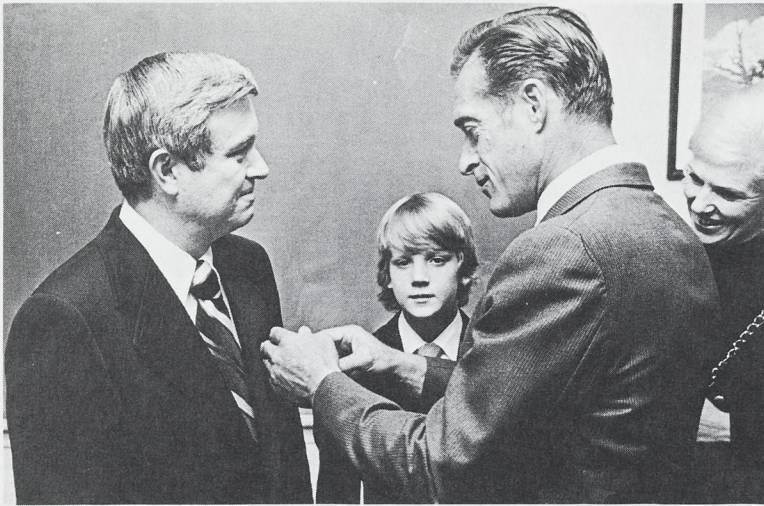
Joe Dilley, manager of Product Support, is the new Safety Committee general chairman. He took office on Nov. 12 succeeding Harry Parker, manager of Quality Assurance.

Other members of the new General Safety Committee include Marian Robinson, secretary; Sherrill Ashworth, Al Binsacca, Gary Bucsis, Clark DeSpain, Rex Fairless, John Miller, Bob Parsons and Chuck Simmons.

Mr. Miller heads up the Manager's Safety Committee. Others on the committee include Americ Chatelain, Ray Escott, Tony Fortuna, Les Myers and Julia Sienk.

Chairman on the Workman's Safety Committee for the next year is Mr. Escott. Others include Jim Archibald, Ray Bourland, Harold Boyd, Estella Johnson, John Kavanagh, Chuck Odorfer, Bob Vogt and Steve Wrubel.





DR. JOHN S. FOSTER, JR., presents award to G. Ronald Wenninger. With them are Mrs. Wenninger and Bob Wenninger.

## San Diego Office Takes Part in Open Sea Dive

Four divers assigned to Commander Submarine Development Group One in San Diego successfully completed an open sea saturation dive at the depth of 1,010 feet near San Clemente recently.

The dive was part of an operational evaluation of the Navy's Deep Dive System, Mark 2.

Northrop personnel from the Ocean Engineering Office, San Diego, participated in the program. They are W. D. Buckbee, manager of the San Diego office; Ray Flynn, who provided on-scene technical support; Lee Wearda, who assisted in writing the operations evaluation plan; and Walt Bennett, who assisted in the preparation of training documentation.

In saturation diving, man is subjected in a decompression chamber to a pressure equal to the known working depth while he is still on the surface. This saturates his body with breathing gas, helium-oxygen. He is then lowered to his undersea working depth in a Personnel Transfer Capsule that maintains the saturation pressure. He then leaves the capsule to work, wearing a hot water suit and modified lightweight underwater breathing apparatus.

When the diver is tired, he returns to the surface via the Personnel Transfer Capsule to sleep or eat in the Deck Compression Chamber, but remains at underwater pressure during this time. He may then return to depth to continue his work. He may work for days or weeks and pay a decompression penalty only once.

Under conventional diving

methods, the diver wearing heavy underwater equipment is lowered to a working depth where his activity is restricted according to depth. After each dive he must decompress before coming to the surface.

Saturation diving permits a diver to make repeated dives. Then regardless of whether the diver remains under pressure for hours, days or weeks, only one decompression period is required. This greatly increases the amount of time that a diver can do useful undersea work.

The general objective of the recent 1,010 foot dive was to prove the feasibility of surface supported saturation diving in the open sea to a depth in excess of 850 feet. The diving systems are intended to develop the capability of man to do useful rescue and salvage work at deeper ocean depths than is possible with conventional diving gear.

The maximum emergency depth authorized for conventional SCUBA diving in the Navy is 200 feet. The maximum conventional hard hat diver depth attained by the Navy is 561 feet.

Submarine Development Group One is the Navy Command assigned the mission of operating as the permanent operational command in the Navy for prosecution of Deep Submergence Systems development.

It is commanded by Captain Samuel H. Packer, USN. Commander D. G. Disney, USN, who is head of the Diving Systems Division of Commander Submarine Development Group One Staff, was the officer in tactical command of the project evaluation.

## TO WENNINGER

### Civilian Service Medal

G. Ronald Wenninger, manager, Laser Systems Laboratories, Northrop Research and Technology Center, has been awarded the Secretary of Defense Meritorious Civilian Service Medal.

The award was made in recognition of Mr. Wenninger's outstanding service during the two years he was associated with the office of the director of Defense Research and Engineering before joining Northrop in September 1972.

The citation noted that Mr. Wenninger made outstanding contributions to the planning, initiation and conduct of research and development programs of significant impact on the defense of the United States.

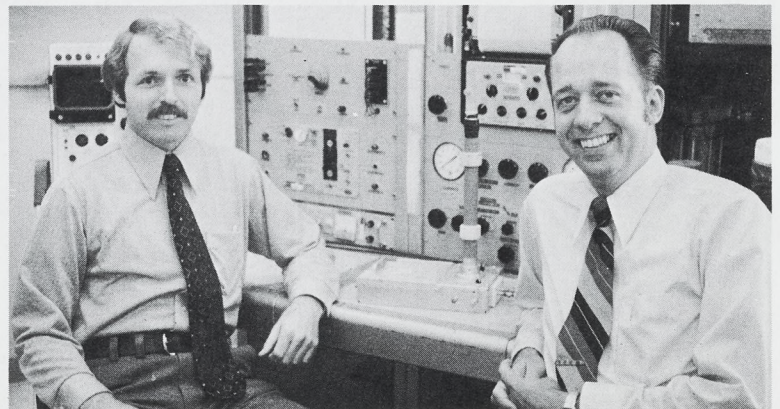
Mr. Wenninger was responsible for, and contributed in a major way to, the long range planning and mission analysis as it relates to tactical warfare programs performed by the three services, the citation said.

During his last year in the Pentagon, Mr. Wenninger led a special study for the director, Dr.

### HALLICRAFTERS CO. RECEIVES CONTRACT

The Hallicrafters Company, a wholly owned subsidiary of Northrop, has received a \$5.1 million contract to provide infrared countermeasure pods for U.S. Air Force tactical aircraft.

The firm fixed price contract, let by the Air Force's Aeronautical Systems Division, Wright Patterson AFB, Ohio, also calls for Hallicrafters to provide overseas maintenance support, initial spare parts, aerospace ground equipment, provisioning spares, and provisioned depot support services and data.



DR. JOSEPH R. SROUF, left, and Dr. Orlie L. Curtis Jr., Research and Technology, received the 1972 IEEE Conference Outstanding Paper Award. Their award-winning paper was entitled, "Short-Term Annealing in Silicon Devices Following Pulsed 14-MeV Neutron Irradiation." Dr. Srouf is a member of the Senior Technical Staff in the Solid State Electronics Lab. Dr. Curtis is director of the Solid State Electronics Lab.

John S. Foster, Jr., concerning tactical nuclear weapons R&D. Regarding this effort, the citation noted, "his leadership has resulted in a significant study which should meet the requirements of the technical community for direction and guidance toward the solution of a myriad of complex issues associated with this critical area of our national defense."

### Northrop Reports Quarter Earnings

Developing an upward trend that began early in 1972, Northrop reported increased earnings for the third quarter ended Sept. 30, of \$2,846,000 or 66 cents a share on sales of \$146,822,000 compared with year-earlier results of \$2,818,000 or 61 cents a share on sales of \$133,024,000.

For the nine months, net income was \$7,927,000 or \$1.79 a share on sales of \$414,448,000 compared with \$9,375,000 or \$1.99 a share on sales of \$415,232,000. Current backlog is approximately \$735 million compared with \$520 million a year earlier.

Commenting on the third quarter results, President Thomas V. Jones pointed out, "this report supports the statement made at the company's annual meeting in December that late 1971 and early 1972 would see the 'bottoming out' of the Northrop sales and earnings picture, and that new product business, the acquisition of several key subsidiaries and increasing sales of the company's F-5E International Fighter would begin to bring increased results for the company in the second half of 1972 and in 1973."



# Aviation Leaders Honor John K. Northrop

John K. Northrop, pioneer plane designer and builder, and co-founder of Northrop Corporation, last month was inducted into the International Aerospace Hall of Fame, at that institutions annual Awards Banquet in San Diego.

Mr. Northrop was honored by world leaders in aviation on the 25th anniversary of the world's first supersonic flight. Brig. Gen. Charles E. Yeager, USAF, a member of the International Aerospace Hall of Fame, received special recognition at the banquet for the historic event when he broke the sound barrier in the bullet-like X-1 rocket plane on Oct. 14, 1947.

## Forming the Company

Mr. Northrop, a native of Newark, N.J., joined in forming Northrop Corp. in 1939 and served as president and head of engineering and research as well. In 1952 he retired and has since been a consultant for a number of organizations.

He is one of the great figures in aviation in America today because of his contributions to the advancement of aerospace tech-

nology. Due to his pioneering inventiveness, the name Northrop is known and respected wherever airplanes are flown. He is one of that small group of pioneers who designed and built the early successful commercial airplanes and thereby paved the way for modern flight. He perfected the all-metal aircraft, and designed the North-

rop Alpha, Beta, Gamma and Delta planes which pioneered smooth stressed skin metal construction in a commercial airplane. For the first time, and in one tremendous step, the useful life of an airplane was increased more than tenfold.

As head of engineering at Northrop Corporation, he was re-

sponsible for the design of sea-planes used by the Norwegian government in exile in WW II, the famous Flying Wing bombers, the Black Widow P-61 radar night fighters, the F-89 Scorpion all-weather interceptors and the Snark SM-62 intercontinental guided missile. He was one of the pioneers in the development of automatic celestial navigation, used to guide the Snark in intercontinental flight.

## Many Honors

He received the President's Certificate of Merit in recognition of his contributions to the nation's defense in World War II and was selected in 1947 to deliver the Wilbur Wright Memorial Lecture before the Royal Aeronautical Society in London. He served as president of the Institute of Aeronautical Sciences in 1948 and is an honorary member of the American Institute of Aeronautics and Astronautics. He was awarded the Spirit of St. Louis Medal of the American Society of Mechanical Engineers for "meritorious service in the advancement of aeronautics," and he is a member of the Royal Aeronautical Society.

He is co-founder of the Northrop Institute of Technology, and was awarded an honorary doctor of science degree by Occidental College in 1948 and an honorary doctor of laws degree by Northrop Institute of Technology in 1970.

## With the Prominent

Mr. Northrop's induction into the International Aerospace Hall of Fame places him on an honors list of many prominent persons of aviation and space history, including Amelia Earhart, Orville and Wilbur Wright, Wernher von Braun, Charles A. Lindbergh, John H. Glenn, Jr., Yuri A. Gagarin, and Alan B. Shepard.

The Hall of Fame, located in San Diego's Balboa Park, was chartered to honor individuals who have made significant contributions to aerospace progress and to provide the public an opportunity to learn of the work of these men and women of aviation and space history.

## VISITORS

Mr. and Mrs. John K. Northrop are touring the Aircraft Division facility today as guests of General Manager Welko Gasich.



STANDING IN front of the Northrop YB-49 Flying Wing, left, is John K. Northrop, co-founder and past president of Northrop Corp. Mr. Northrop was responsible for the design of the Northrop Flying Wings. The Flying Wing was acclaimed the "world's most powerful bomber" when it made its first flight in October 1947. At the 1972 International Aerospace Hall of Fame Banquet, right, are Brig. Gen. Charles E. Yeager, USAF, left, and Mr. Northrop. Gen. Yeager received a special award for being the first man to break the sound barrier and Mr. Northrop was inducted into the Hall of Fame.

## Discount Toys Are Available

Personnel Activities has made arrangements with two of the Southland's largest wholesale toy and game distributors for employees to purchase Christmas gifts at greatly reduced prices.

Northrop identification badges must be shown to make purchases at Pul-Wal, Inc., 1035 S. Grand, on Dec. 2, from 9 a.m. to 4 p.m. and Dec. 3, 10 a.m. to 4 p.m.; and the Southwestern Novelty Co., 330 S. Los Angeles St. on Dec. 9, from 9 a.m. to 4 p.m., on Dec. 10 from 10 a.m. to 4 p.m. Both locations are in Los Angeles.

## SMOOTHSAVERS

The Smoothsayers Toastmistress Club is having a "demonstration meeting" Nov. 20 at 7 p.m. in the Northrop Recreation Club's clubhouse, Hawthorne. Anyone interested in learning procedures for conducting meetings, presenting programs, better methods of communication, and general self-improvement is invited.

Admission is free and refreshments will be served. For information contact Gay Dillard, (213) 870-7528 or Shirley Wilson, ext. 2259.

## ARE YOU INVOLVED IN SERVICE WORK?

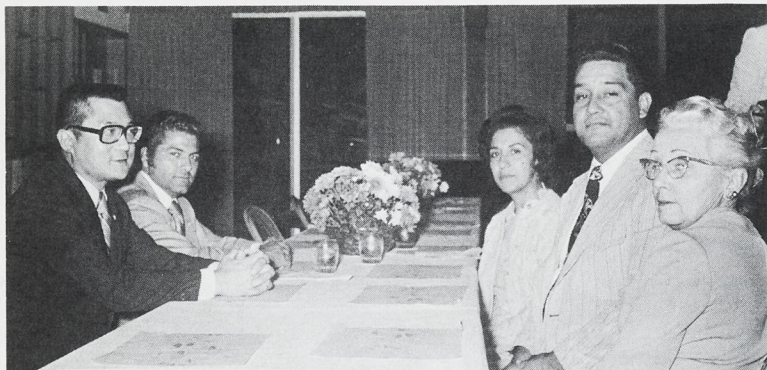
The community service activities of various Northrop organizations are a matter of record, but individual efforts are frequently overlooked.

In order to inventory those individual efforts, we ask that those Northrop employees who voluntarily participate in community service work complete the following survey and return it to: Northrop News, 170/40.

Enter the approximate number of man-hours you devote annually to community service. Base estimates on 1972 activities. Enter annual total on bottom line.

	Estimated Man-hours
Advisory or action bodies of local, county, state and federal governments—such as City Planning, State Development Programs, agencies of OEO, etc. ....	_____
Youth organizations—such as Boy Scouts, YMCA, Big Brothers, PAL, etc. ....	_____
Welfare organizations—such as Community Chest, Salvation Army, job training and placement, etc. ....	_____
Health organizations—such as Red Cross, hospitals, mental health associations, Easter Seals, UCP, etc. ....	_____
Civic improvement groups—such as neighborhood development, safety campaigns, get-out-the-vote drives, better laws, clean-up work, Urban League, etc. ....	_____
Public and/or private schools and colleges .....	_____
Church or religious organizations .....	_____
Other (describe) .....	_____
Total man-hours for public service, annually .....	_____
Name.....	Orgn.....





COMMUNITY MEETING with Tom Lee, Jesse F. Perez, Orange City mayor, Mr. and Mrs. Joseph Venegas, directors of Orange Mexican-American Friendly Center, and Mrs. Thomas I. Nalbach.

## NORTHROP'S TOM LEE

# Helps Mexican-Americans

Tom Lee, Ocean Engineering, San Diego, has formed a committee among members of the First Presbyterian Church of Orange who have expertise in systems engineering, proposals, contracts, housing, education and medicine to assist people of the El Modeno Mexican-American barrio.

In cooperation with the El Modeno community and the California Regional Medical Programs, Mr. Lee and his team of experts are assisting this under-privileged community in preparation of a Health Education Grant Application.

If approved by the Department of Health, Education and Welfare, this grant will provide urgently needed medical care and health education to medically indigent families of El Modeno.

This project is but a small part of a more comprehensive health care program currently under development. Mr. Lee and his com-

mittee also intend to evaluate other community needs such as housing, education and employment.

Mr. Lee said the way members of the committee have assisted him is a "splendid example of how talents acquired in industry can be applied to improvement of our communities and to bring hope to our less fortunate neighbors."

### Strong Supporter

Mr. Lee is a strong supporter of professional, civic and religious organizations. He has been program chairman and councilor for the Marine Technology Society, and first vice president for the Santa Ana Community Concert Assn. He is an Elder of the First Presbyterian Church of Orange, and Skipper of the Los Ranchos Presbytery Mariners. He joined Northrop in 1957 at the height of the Snark program and participated in the development of inertial navigation systems.



NORTHROP ARTISTS, young and old were out for the Palos Verdes Art Association's annual Art for Fun(d)s Sake exhibition held each year at the Electronics Division in PV. Here are, from left, Bob Mack, with daughters, Robin, Lisa and Windy, Chuck Felder, Mrs. Bob Peck, Harold Leff, Carole Felder, and Jack Flannagan, from Electro-Mechanical Division; Dick Mosher and Ed Mosher, Aircraft Division; and kneeling in front, Bill Gray, Electronics Division. The dog is Barney Peck.

## TOUGH 'SCIENCE' COURSE

# For Traveling Students

Summer school for the four daughters of Gordon Bricken was a van that rolled 10,500 miles while making a figure eight journey up and down, and across the United States.

The "school's" curriculum included learning how money was made in the Denver Mint, how the West was won in Dodge City's exhibits, about our presidents at Lincoln's tomb and the Eisenhower Library, and—among many other things — a firsthand lesson in science when their van was struck by lightning in Florida.

The trip, which included Mr. Bricken's wife, Maureen, and his mother, Mrs. Kathleen Bricken, was intended as an educational jaunt for Barbara, 8, Mary, 7, Patricia, 5, and Victoria, 1.

### Trip Begins

It began in Los Angeles and went up through Nevada, Utah and to Montana. Then cut south through Yellowstone to Texas and then due east to Florida and Disneyworld.

Here Mr. Bricken had to leave the tour temporarily to fly back to a Northrop meeting. Mrs. Bricken took over the driving chore, heading north through Georgia, Kentucky and Ohio.

Coming out of Florida she ran

into a heavy electrical storm. Lightning bolts began striking the ground around the road.

"I felt like I had moved into a movie where bombs are going off all around the hero," Mrs. Bricken recalled.

Then suddenly lightning struck the van. It felt as if the vehicle had been hit by a giant's fist. The van shook. There was a tremendous flash of light, followed by the odor of burning canvas when the van cover was destroyed.

"My first thought was the children and their reaction," Mrs. Bricken recalled. "But they took it much better than I."

Mr. Bricken rejoined the group in Ohio, driving back through St. Louis, Kansas, El Paso, and returning to Los Angeles.

"We planned the trip as a sort of go-there geography lesson for the girls," he said. "But it turned out to be a series of lessons in so many things that we'd like to have a similar school every summer."

"However," he added reflectively, "while we learned the value of finding out about the country firsthand instead of reading about it in a book, I think we would all prefer to pass up the lesson in science. We want no more lightning."

## Mrs. Ondrasek Wins Dance Contest

"That's what I want to do," said Sheila Ondrasek, Aircraft Division secretary, when she saw an exhibition of International Ballroom dancing.

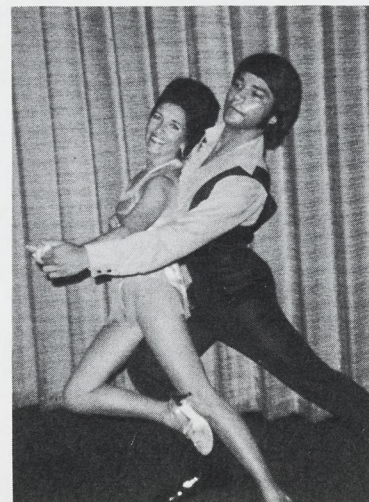
And that is exactly what she did. In April Mrs. Ondrasek enrolled in a dancing school. Five months later she won two exhibition trophies, dancing with her instructor Don Martinez in a contest jointly sponsored by Victor Dru Studios and the Dance Teachers Association of California.

Her first trophy was for Best Exhibition, International Rhumba. The second was first runner-up in the American Free Style dancing. Judges for the contest included the internationally known English team of Cleve and Wade.

International Ballroom dancing, according to Mrs. Ondrasek, differs from ordinary ballroom dancing. It is based on English standards and is very precise, with the judges paying great attention to body style, carriage and foot

position. Also, unlike American ballroom dancing which is usually done in evening clothes, different costumes are permissible in International Ballroom dancing.

"It is really great fun," she said, "and even more fun when you win a trophy the first time out."



Mrs. Ondrasek and partner.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Rambler Classic**, 1964, auto., \$250. 714-892-7174.

**Datsun**, 1971, 510 wagon, auto. trans., AM-FM radio, \$1,750. 213-834-1812.

**Chevy II**, 1964, 4-dr., \$375. 213-675-7740.

**Volkswagen**, 1960 Westphalia camper, \$725. 213-677-6926.

**Camaro**, 1971, 350 V-8, a/c, radio, p/s, a/t, tape deck, \$2,900. 714-522-0504.

**Chevrolet**, 1965 Impala S.S., 4-dr. 396, a/c, p/s, p/b, \$525. 714-522-2740.

**Dodge**, 1965 Dart, 6 cyl., auto., rebilt. eng., \$450. 213-327-9191, 213-532-0122.

**Pontiac**, 1963 Grand Prix, a/c, fully powered, \$450. 213-324-7059.

**Pontiac**, 1964, 2-dr. h/top, 4-spd., r/h, \$300. 213-545-3128.

**Mustang**, 1970 fastback, pwr. d/brakes, p/s, \$2,195. 213-379-8067.

**Datsun**, 1971 240Z, 9,000 mi., a/c, mags, \$4,400. 213-645-0804.

**Mustang**, 1965, r/h, a/c, auto., p/b, p/s, \$999. 213-695-1687.

**T-Bird**, 1957, p/s, p/b, 3-spd. stick & o/drive, \$1,295. 213-329-3900.

**Chevrolet**, 1964 Impala, 4-dr. h/top, V-8, auto., p/s, \$250. 213-322-3319.

**Pontiac**, 1969 station wagon, V-8, 3 seats, 38,000 mi., \$2,700. 213-375-8536.

**Buick**, 1965 LeSabre, 4-dr. h/top, a/c, \$395. 714-828-2857.

**Camaro**, 1970, Rally Sport, 350 V-8, p/b, p/s, r/h, \$2,400. 213-326-3704.

**Oldsmobile 442**, 1969, 400 c.i.d. eng., 4-spd. trans., AM-FM radio, htr., p/b, \$1,500. 213-320-0328.

**Cadillac**, 1964 Sedan De Ville, full power, \$795. 213-675-8757.

**T-Bird**, 1956, full power, \$1,900. 213-671-7272.

**Camaro SS**, 1969 4-spd., posi-traction, pwr. d/brakes, AM-FM radio, \$1,700. 213-673-0416.

**Pontiac**, 1967 GTO h/top, d/brakes, a/c, 8-track, \$1,200. 213-377-6658.

**Lincoln**, 1964 Continental, 4-dr. sedan, full power, a/c, \$750. 213-882-0761.

**Cadillac**, 1971 Sedan de Ville, many extras, \$5,500. 213-542-4872.

**Pinto**, 1972, 2,000 cc 4-spd., AM-FM-tape deck unit, \$1,900. 213-541-1719.

**Camaro**, 1968, 4-spd., Holley carb., \$900. 213-322-4180.

**Ford**, 1966 Fairlane, auto., p/s, V-8, \$775. 213-374-2995.

**Pickup**, Dodge, w/8' Aristocrat cabover camper, 1970 3/4-ton D200, 383 cu. eng., 4-spd. trans., many extras, \$3,200. 213-588-3784.

**Station Wagon**, 1971 Dodge Colt, 4-spd., radio, a/c, \$1,950. 213-674-4119.

**Chevrolet**, 1954 Suburban carryall, \$265. 213-677-8543, 213-671-5029.

**Winnebago**, 1970 Chieftan, 22', Dodge chassis, 20,000 mi., sleeps 6-8, a/c, Onan gen., many other extras, \$10,800. 213-472-6052.

**Volkswagen**, 1966, 1300 series, \$521. 213-645-3169.

**Station Wagon**, 1963 Fairlane, 9-pass., V-8, p/s, r/h, auto., \$350. 213-671-4550.

**Ford**, 1971 LTD Brougham, 19,000 mi., p/s, p/b, a/c, \$3,150. 213-926-7624.

**Volkswagen**, 1964, \$499. 714-962-8127.

**Chevrolet**, 1968 Impala custom h/top, factory air, p/s, r/h, \$1,495. 213-821-8150.

## Miscellaneous For Sale

**Shag Rug**, shocking pink, 6'x9', \$25. 213-545-7149.

**Skis**, Hart Holiday, Geze bindings & boots, \$100. 213-423-1363.

**Bunk Bed Set**, 3 30", mattress, \$75. 213-675-4239.

**Floor Pillows**, 4 lge., \$25. 213-675-1000.

**Trailer**, utility, 8' long, 3 1/2' wide, 3' h., spare tire, \$150. 213-645-6494.

**Tape Player**, Elgin stereo 8-track port., \$45. 213-324-1908.

**Bicycle**, 27" 10-spd., many extras, \$89. 213-542-6716.

## Miscellaneous For Sale

**Stroller**, \$10. 213-329-6091.

**Trailer**, 1968 Cardinal Low Line, \$870. 213-675-4597.

**Motorcycle**, 1970 350 c.c. Honda, many extras, \$650. 213-670-2098.

**Cradle**, Babyline, \$40. 213-547-4141.

**Flight Jacket**, Northrop orange, ige., \$18. 213-391-5046.

**Elektrikbroom**, Regina, used once, \$20. 213-644-3922.

**Travel Trailer**, 26', 1969 Monitor, Eastern coach, self-contained, sleeps 6, \$3,700. 714-842-4688.

**Beds**, twin, spring, mattresses, white plastic h/boards, \$20 ea. 213-675-6081.

**Air Conditioning Unit**, 1960 Cadillac Cpe. de Ville, removable, use in other autos, \$325. 213-676-1580.

**House**, Hollypark, 3-bdrm., 2 baths, den, rum-pus rm., \$29,950. 213-329-9510.

**Stove**, modern, gas, \$30. Box 1101.

**Freezer**, Coldspot, 17 cu.ft., 8 yrs. old, \$75. 213-672-1853.

**Fence**, steel picket-type, 75'x2' h. w/attach. post, \$20. 213-323-3528.

**Motorcycle**, 1972 Stens dirt-type, Hodaka 100 eng., 5 mos. old, \$275. 213-377-4972.

**Rollaway Bed**, \$12. 213-923-9957.

**Dryer**, gas, Whirlpool, \$25. 213-372-5508.

**Motor**, 1/2 h.p. elec., on & off switch, \$10. 213-370-3821.

**Refrig.-Freezer**, Philco, 14.5 cu.ft., near new, \$150. 213-638-6238.

**House**, 3-bdrm., 1 1/2 bath, cpts., dps., bltins, 5 1/4% G.I. loan, Holly Park, \$31,250. 213-329-1952.

**Mobile Home**, 12x60, carport, 8'x36' enc. patio, \$5,500. 213-532-1344.

**Dining Room Chairs**, 6 Mediterranean style, \$48. 213-860-3022.

**Hood Lock Down Kit**, deluxe rings & cables, fits Ford cars, \$10. 213-375-1685.

**Typewriter**, 15" Underwood manual, \$25. 213-675-2331.

**Pups**, collie, \$75-\$150. 213-370-4475.

**Organ**, electronic Silvertone/Thomas 2-key board manual, Leslie, 3 yrs. old, \$495. 213-324-9223.

**Dining Room Table**, maple, 4 chairs, \$25. 213-549-2294.

**Acreage**, 2 1/2 acres adjacent to Apple Valley, terms, some utils., roads, \$5,950. 213-325-5609.

**Pups**, German shepherd, AKC champ., male \$100, female \$75. 714-536-6291.

**Tires**, 8.55x15 & 8.15x15, \$15. 213-371-6758.

**Pressure Cooker**, Presto, never used, \$12. 213-545-2577.

**Boat**, 15', 35 h.p. Evinrude motor, 17' trailer, many extras, \$500. 213-398-8111.

**Acreage**, 2 1/2 acres, Antelope Valley, water & elec., \$400 dn., \$45 mo., 7%, \$4,950. 213-378-1026.

**China**, Noritake, Blue Rose pattern, over 60 pcs., \$40. 213-375-7006.

**Bedroom Set**, 7-pc., blonde, box spring & mattress, \$75. 213-294-2461.

**Travel Trailer**, 15 1/2' Scotsman, sleeps 5, \$350. 213-371-7274.

**Projector**, regular 8mm, case, bltin splicer, \$25. 213-371-1070.

**U.S. Flag**, 8'x5' cotton, seldom used, \$10. 213-675-6128.

**Hi-Chair**, playpen, \$10. 213-376-4831.

**Movie Equipment**, 8mm camera, projector, editor/splicer, screen, \$75. 213-679-6982.

**Kitchen Table**, 4 chairs, \$10. 213-641-5362.

**Skis**, Hart, 190s, \$50. 213-644-6940.

**Ping Pong Table**, all access., \$15. 213-372-7018.

**Bicycle**, 3-spd., 1 yr. old, \$65. 213-644-9292.

**Tape Recorder**, Telefunken, \$125. 213-675-7673.

**Dining Table**, oval, 6 chairs, Salem maple, exts., \$75. 213-375-9553.

**Boat**, 20' catamaran, fully equipped, \$750. 213-597-0550.

**Engine**, Falcon, 170 cu. in., 6-cyl., \$35. 213-328-3306.

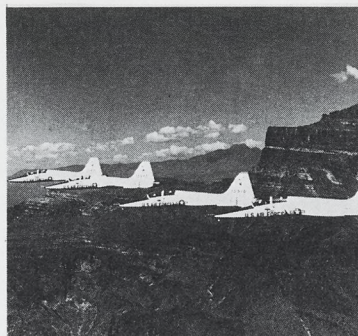
**Melodica**, w/case, \$10. 213-675-6397.

**Lot**, corner, residential, Lake Havasu, Ariz., \$7,500. 714-526-2962.

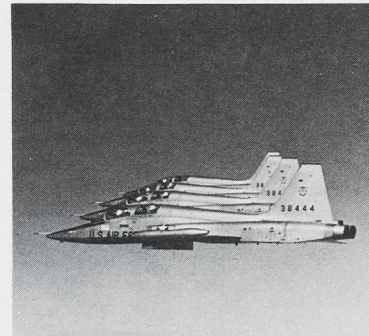
**Chord Organ**, elec. Emenee audio 3-oct. bench, \$25. 213-644-0506.

**Motorcycle**, 1967 90 Suzuki, dirt or street, \$175. 714-524-9688.

**Sofa Bed**, vinyl, & water skis, \$40. 213-324-8853.



**OOPS! IN OUR October issue, page 3, on Northrop's participation with the Air Force these 25 years, in a mix up in printing we put an F-5B picture, right, over a T-38 caption. Since our readers who phoned in about the error said they intend to keep the page for historical value, we are printing the right picture for those who would like to cut it out and paste it on the page they are saving (and also to cover up our error).**



## Miscellaneous For Sale

**Cover**, green, fitted, for studio couch w/ matching round bolsters, \$10. 213-645-7972.

**Tires**, 4 Delta, whls., hub caps, mounted, 800x16.5, 8-ply, 8-lug, \$100. 213-325-7888.

**Pup**, German shepherd, male, 6 mos. old, \$50. 213-325-0116.

**Organ**, Kimball Swinger w/rhythm, \$650. 714-832-7014.

**Motorcycle**, 1970 Hodaka Super Steen, many extras, \$350. 213-679-6902.

**Motorcycle**, 1972 Honda SL70, \$300. 213-675-6206.

**Dog**, Maltese, reg., female, 11 mos. old, shots, \$160. 213-534-1809.

**Bicycle**, 20" girl's, \$5. 714-523-5315.

**Fencing**, chain link, 140' 11 ga. std. wire 48" high, \$25. 213-377-9723.

**Bumper**, front, Karmann-Ghia, \$25. 213-329-2893.

**Sloop**, 25' Coronada, custom mahogany int., 6 h.p. Evinrude, \$5,250. Box 1102.

**Sailboat**, 29' Triton sloop, inbd. eng., 3 sets of sails, fully equipped, sleeps 4, \$7,900. 805-642-4142.

**Drum Set**, Ludwig Super Classic, cymbals, stands, \$599. 213-291-6075.

**Washer**, Hot Point Silhouette S200, 1963, \$35. 213-377-5853.

**Bicycle**, tandem, Schwinn 5-spd. de lux twin, \$100. 213-324-9223.

**Fencing**, chain link, 30', bars, clamps, 36" h., \$7. 213-328-0887.

**Mobile Home**, 20'x55', 1969 Kit Fairview, 2-bdrm., 2 bath, forced a/h, Huntington Bch., \$12,000. 714-847-7874.

**Organ**, Conn, electronic, Leslie spkr., 2 full keyboards, \$200. 714-524-2128.

**Tires**, Firestone 145, pr., 13 Cavallino sport 200 radial, never mounted, \$19 ea. Box 1103.

**Mobile Home**, Villawest 20x54, 2 yrs. old, adult park, pets accepted, 2-bdrm., 2 baths, \$11,500. 213-320-5834.

**Chair**, moss green velvet, \$90. 213-644-4656.

**Motorcycle**, 1970 Honda CL-450, 7,000 mi., \$675. 213-326-0279.

**Engine**, Porsche, 1600 cc, complete, extra spare parts, \$385. 213-821-9110.

**Microwave Oven**, Amana, deluxe model, \$300. 213-675-7938.

**Fire Extinguisher**, Ansul, S-350 lb. dry chemical, 50 ft. of hose, used once, \$500. 714-839-5218.

**Fireplace**, Swedish, complete, h/ware & screen, \$125. 213-378-9660.

## Wanted to Buy

**Cornet**, or trumpet for child. 213-833-2707.

**Utility Trailer**, box-type, metal or wood. 213-545-5995.

**Baby Porta-Crib**, in good condition. 213-530-3118.

## Free (To Be Given Away)

**Dog**, miniature Greyhound, 3 yrs. old, male. 213-676-7007.

**Cat**, male, 8 mos. old, had shots. 213-370-9037.

**Pup**, cokerpo & German shepherd, 8 wks. old, black, male. 213-830-6956.

## Child Care

**Child Care** offered, my home, toddlers only, Lawndale. 213-542-5434.

## Found

**Northrop Golfers** call for your lost golf covers at Personnel Activities, ext. 2486.

## Found

**Glasses**, 1 pr., men's, black rims, Dr. Palmer, optometrist, found in Northrop Daihatsui, call ext. 4684.

## Personals

To my friends & fellow workers, a million thanks for the lovely retirement party & gifts. FRANK L. ROMERO.

Our sincere thanks to all of Artie's friends at Northrop. The flowers & donations to the Heart Fund were deeply appreciated. MRS. ARTIE VAUGHN & FAMILY.

Our sincere appreciation for the flowers & kind expressions of sympathy on the recent death of our son, Gordon. MR. & MRS. DONALD E. SMITH & FAMILY.

I wish to thank my many friends for the surprise retirement & going away party & gifts. I shall always remember all my co-workers & friends. JAKE SUPERATA.

My sincere appreciation for the lovely flowers & kind expressions of sympathy at the time of the death of my mother. A. G. MACLEOD.

I want to express my most sincere thanks & appreciation to all my friends & co-workers at Northrop for the wonderful retirement party & gifts. I will always remember our association. GENE MUSK.

To my dear Northrop friends, thank you for the flowers & expressions of sympathy on the passing away of my mother. ROY & JOAN HUNTER & FAMILY.

**Ride Offered**, 7:30 a.m.-4:12 p.m., Huntington Beach area, vicinity San Diego Fwy. & Beach Blvd. or Warner Ave., Aircraft exts. 4505, 4506.

## For Sale or Trade

**Chevrolet**, 1965 Bel Air, \$450 or trade for pickup. 213-325-2637.

**Travel Trailer**, 1968 15' Field & Stream, propane range, elec. lights, \$900 or consider trade for pickup camper. 213-433-5577.

# NORTHROP NEWS

Vol. 30

No. 11

Published monthly by Northrop Corporation Employee Communications.

Managing Editor, Rosemary Hussey; Editors: Ivy Edmonds, Electro-Mechanical Division; James Lassiter, Aircraft and Electronics Divisions; Correspondents: Dale Albee, Architectural Systems; Peter Goodall, Precision Products Department.

Mailing address: Northrop News, 170/40, Northrop Corporation, 3901 W. Broadway, Hawthorne, Calif. 90250. Telephone: (213) 675-4611, ext. 4273.

# NOTICE

Due to space limitations, rental advertising will no longer be accepted. Exceptions are bona fide transferees who wish to sell or sublet their homes or apartments or new employees who are seeking housing.





**AZTEC ART** is presented to Andres Herrera, right, Northrop Hueneme director of personnel by Joe Anguiano, job developer for the Mexican American Opportunity Foundation.



**MR. PARKER**

## SERVICE AWARDS

Heading the list of service awards is Harry Parker, manager, Quality Assurance Department, who has been with the company for 30 years.

Oscar Cox, project administrator, Configuration Management and Engineering Release, was the sole recipient of a 25-year award.

Other division employees receiving service awards were:

### Fifteen Years

Melvin Rich.

### Ten Years

Rex Fairless, Stanley Nutter, William Leeds, Charles Bliven, Kendall Conger, Andrew McNeir, Robert Calhoun, Robert Wilson, Mervin Cable and Thomas Cotton.

### Five Years

Betty Dino, Lester Gunderson, Wilma Bradford, Ronald Lischak, Jesus Magana, John Brokaw, Thomas Noble, Clara Manring, William Adams, James Foster, Alma Hartman, Bobbie Sperry, Ray Janis, Robert Butler,

Robert Livingston, Tony Sotelo, John Cushman, Bill Glass, Americ Chatelain, Mac Pakula, Thomas Leichtfuss, Oral Piercey, Bill Mullins, Patricia Lissak, Morton Miller, Larry Correy, Gordon Manley, Donald Maxwell, Marion Bortoff, Bruce Knudson, Ronald Maderos, Pearl Sherry, Ronald Huss, William Stewart, Gordon Finley and Clifford Mileham.

## DINNER DANCE

From the Odyssey Restaurant high atop the Mission Hills overlooking the San Fernando Valley, members and guests of the Ventura Division Management Club will dine and dance on Saturday, Dec. 2.

In addition to dancing to the music of the Scott Allen Orchestra, new Management Club officers for the coming year will be installed.

Dave Coe, current club president, urges all members to attend the gala affair which gets under way with a social hour starting at 7:30 p.m. Dinner is at 8:30 and dancing slated to start at 9 and continue to 1 a.m.

Reservations can be made up to and including Wednesday, Nov. 22. Tickets can be obtained by contacting Mary Berger, ext. 664; Bert Rose, ext. 213 or Tanet Koopman, ext. 307. For members, the cost is \$10 per couple, for guests, \$20 per couple.

## Real Estate Loans At Credit Union

Many Northrop employees at the Ventura Division are probably unaware their Credit Union is now making real estate loans up to \$10,000 for first trust deeds and up to \$5,000 for second trust deeds.

Credit Union Manager Betty Jean Porter noted such loans are part of the credit unions revised loan policies which also specify an employee does not need to be a member of the Credit Union to be eligible, only to have been an employee for 90 days or more.

She further explained first trust deed loans have an annual interest rate of 7 per cent which translates into .58 of 1 per cent per month on the unpaid balance. Second trust deeds have an annual interest rate of 9 per cent which is .75 of 1 per cent per month on the unpaid balance.

In addition, all real estate loans are fully insured. Such loans have a maximum repayment period of 10 years for first trust deed and seven years for second trust deed.

Full details can be obtained by contacting the Credit Union office or by calling ext. 420.



**SHIRLEY COMBS**

## Shirley Combs is Top Suggestor

By suggesting a simpler and less time consuming format for processing paperwork in the Ventura Division's new automated data processing system in Receiving, Shirley H. Combs is \$193 richer.

Other awards included \$53 to Ralph A. Opfer, \$25 to N. H. Stohlmann and Matt Newcomb; \$23 to P. A. Friedman, \$18 to Russ L. Thomas and \$10 awards to Russ R. Thomas, Ken N. Anderson, Ron G. Lischak, M. H. Novak, Bill R. Cope, Paul A. Friedman, John H. Green and Carrol J. Mann.

## Eagle Scout Recognition Dinner Held at Division; Space Films Shown

Ventura County Eagle Scouts were honored guests along with their sponsors on Oct. 26 when the Ventura Division hosted them for the Eighth Annual Eagle Scout Recognition Dinner, held in the divisional cafeteria.

Prior to the dinner, the scouts and their sponsors were taken on a tour of the division by Paul

Lawrason, who headed up the event for Northrop.

The sponsors and escorts for the 53 scouts were business, civic and professional leaders from throughout the county.

The scouts and their sponsors were welcomed to Northrop by W. E. Woolwine, Corporate vice president and general manager.

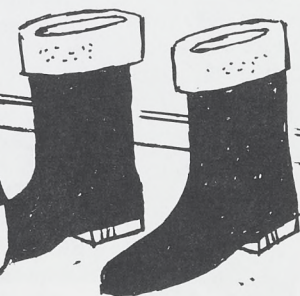


**SPACE BRIEFING** is given Ventura County Eagle Scouts and their sponsors by NASA's Joseph C. Campbell, who was featured speaker at annual Recognition Dinner hosted by the Ventura Division.



# NORTHROP NEWS

## Merry Christmas





# Aerospace Outlook—President Jones

The outcome of 10 key government programs with a potential of \$16 billion over the next six years could mean success or failure in the future for Southern California's aerospace industry, according to Thomas V. Jones, Northrop president, appearing at the 1973 Los Angeles Chamber of Commerce Business Outlook Conference.

Speaking on "The Aerospace Outlook for 1973—And Beyond," Mr. Jones said, "In the defense and space fields, there are some 10 government programs which mean a great deal now—and will mean a great deal more over the next five or six years—to the economy of Southern California."

The B-1 bomber, Space Shuttle, Northrop's A-9A, Lightweight

Fighter and F-5E International Fighter, Maverick and Phoenix missiles, S-3A and P-3 anti-submarine aircraft and Trident Submarine-launched missile are the top 10 on-going government space and defense programs in Southern California, according to Mr. Jones.

"If all of these programs go as planned, they represent about \$16 billion over the next six years, of which about \$2 billion would come in 1973. Because of the amount of this that would be spent in other states—for engines and other equipment, and for subcontract work—it is estimated that about 60 per cent of the total would remain in California, or about \$10 billion over the next six years and about \$1.2 billion

in 1973," he said.

Mr. Jones added that the termination of the war in Vietnam will not materially affect the Southern California aerospace industry since it has not been significantly involved in supplying equipment for that conflict.

He noted that the industry's greatest opportunity in the future lies in the area of exports. "Our advanced technology is competitive with suppliers throughout the world, and given access to these markets, we can compete. The important thing here to remember is that we recognize that we are dealing with sovereign nations, many with industries of their own, and that if we are to contribute to their defense it must be on the basis of cooperation rather than confrontation," he pointed out.

Commenting on the aerospace employment picture, the chief executive said, "There is a growing

tendency on the part of other sections of the country to protest the share of defense business that comes to California and to demand a larger share for themselves," he declared. "This percentage of business is here because it was the Pacific Coast, and California in particular, that supplied the scientific and technical know-how that built up our national security and the space programs when they were needed, and it was our people who took the brunt of the lay-offs when the cutbacks began."

Mr. Jones emphasized that "the case for the geographic distribution of defense work is not valid."

On the civil front, he predicted that there will be increasing opportunities for the solution of the problems of the economy and the society, and that aerospace will make an increasing contribution in that field.

## Board of Directors Promotes Two Northrop Executives

F. W. "Bob" Lloyd has been elected to the board of directors of Northrop Corporation, Thomas V. Jones, president and chairman, announced.

Mr. Lloyd is senior vice president-Operations for Northrop. He joined the company in November 1941 as an assembler, and progressed steadily through the positions of general foreman, assistant superintendent of Production Control, superintendent of Manufacturing Control, assistant factory manager, general superintendent, director of Manufacturing Engineering, and vice president-Manufacturing.

Prior to being named to his present position, Mr. Lloyd served for five years as vice president and general manager of the Aircraft Division, the company's largest operating component. His development and implementation of advanced technology manufacturing methods enabled Northrop to become one of the lowest cost-per-pound manufacturers in the aerospace industry.

In other action by the board of directors, Mr. Jones announced the election of David H. Olson as secretary of the corporation.

Mr. Olson joined Northrop in 1967 as assistant secretary.

Mr. Olson received his A.B. degree from the University of California at Los Angeles and his J.D. degree from the University of California at Berkeley. He served in the U.S. Air Force from 1959 to 1961, attaining the rank of captain. He is a member of the State Bar of California, American Bar Association, Los Angeles Bar Association, Lawyers Club of Los Angeles and the American Board of Trial Advocates.

Mr. Olson's election will provide George Gore, secretary of the corporation since 1945, "with more time to devote to his duties as corporate vice president and general counsel," according to Mr. Jones.

## SLATE SET FOR NORAIID OFFICERS

Dan O'Halloran has been named chairman of the board of directors and Doug Leavenworth, president of NORAIID, Northrop's in-house charity program, at a meeting last month.

Mr. O'Halloran, Paul Jacobs, C. W. Benson, M. K. Lowe, Willard Lindstrand, Frank Mathes and Sal Xifo, represent the Aircraft Division; Mr. Leavenworth, Electro-Mechanical; Lloyd Jones, Electronics; and Frank Smith, the Corporate office, on the board.

Mr. Xifo serves as vice president; Ernie Boren, treasurer; Marie Tully as secretary and administrator; and Rudy Rivero, accountant, for the coming year.

## NAS Installs Curtainwalls in Tallest Building in Downtown Los Angeles

Northrop Architectural Systems, City of Industry, is busy putting together portions of the tallest building west of Chicago. The Custom Products Division of NAS, under a \$3 million contract to United California Bank, maintains a 65-man crew installing the curtainwall portion of the new UCB corporate building.

Located in downtown Los Angeles, south of Sixth Street, north of Wilshire, west of Hope and east of the Mobil Oil Company, the UCB building will rise 62 floors above ground, 858 feet high. It is 10 stories higher than any other building in the Los Angeles area; the second tallest structure being the Richfield Towers at 52 floors. The structure itself will be 180 feet wide, 119 feet deep, and will require 100 miles of aluminum extrusions and approximately 12,200 lites of glass or about 1¼ million pounds. The titanic wall area if laid flat would cover more than 10½ football fields.

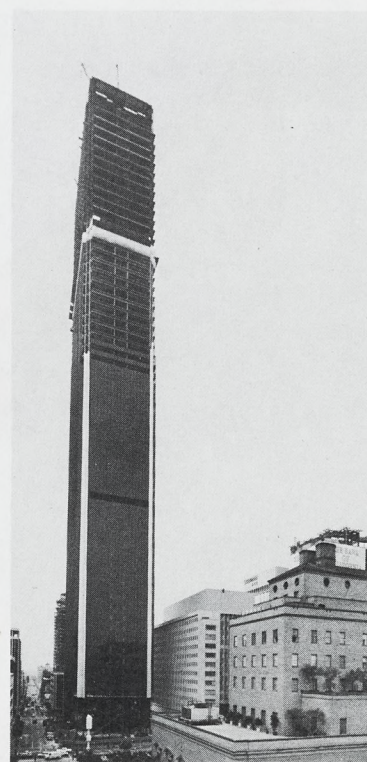
Sections of the curtainwall were tested for air and water infiltration last January at the

### P-600 NOW YF-17

Northrop's Lightweight Fighter (LWF) prototype aircraft, originally called the P-600, is now the YF-17 as designated by the U.S. Air Force. In April of this year, Northrop received a contract to build two prototypes and the aircraft are expected to fly in early 1974.

University of Miami. The building, which tapers 5 feet inward from top to bottom all around, will also support 18 miles of vertical mullions, and 93,000 square feet of aluminum clad sheets on its corners.

NAS, maintaining services and products all over the free world, plans to complete the curtain-wall portion by summer 1973.



UNITED CALIFORNIA BANK  
CORPORATE BUILDING



Mr. Lloyd



Mr. Olson



## Young Lady Honored As Outstanding English Student

Carol Ann Beuchat, daughter of Chuck Beuchat, Training specialist with the Aircraft Division, is an exceptional young lady in that she has been cited as one of the outstanding high school students of English in the country.

The National Council of Teachers has named the 17-year-old Gardena High School student a 1972 finalist in its annual Achievement Award competition.



In the competition, each student submitted samples of their best writing, including

an autobiographical sketch, and wrote a one-hour impromptu essay. The writings were evaluated by college and high school English teachers directed by state coordinators.

Approximately 7,200 juniors participated in the contest, and 870 finalists were chosen representing 50 states, the District of Columbia, and American preparatory schools abroad.

Carol is a candidate for a college scholarship in 1973, and her name has been sent to admissions officers and English department chairmen at junior colleges, colleges and universities.

## COOKBOOKS

This is your last chance to buy the Northrop cookbooks which went on sale early this month.

The books are \$2.50 and are available at any Personnel Activities office.

The cookbooks contain recipes submitted by employees, and proceeds from the sale support several Northrop charities.

## DR. HICKS ELECTED

Dr. D. A. Hicks, vice president, Research and Technology, has been elected vice chairman of the Aerospace Technical Council of the Aerospace Industries Association.

The Aerospace Technical Council is the industry's top level technical advisory body through which broad technical and management problems affecting both government and industry are reviewed and solutions sought.

## Discounts Offered By Sports Club

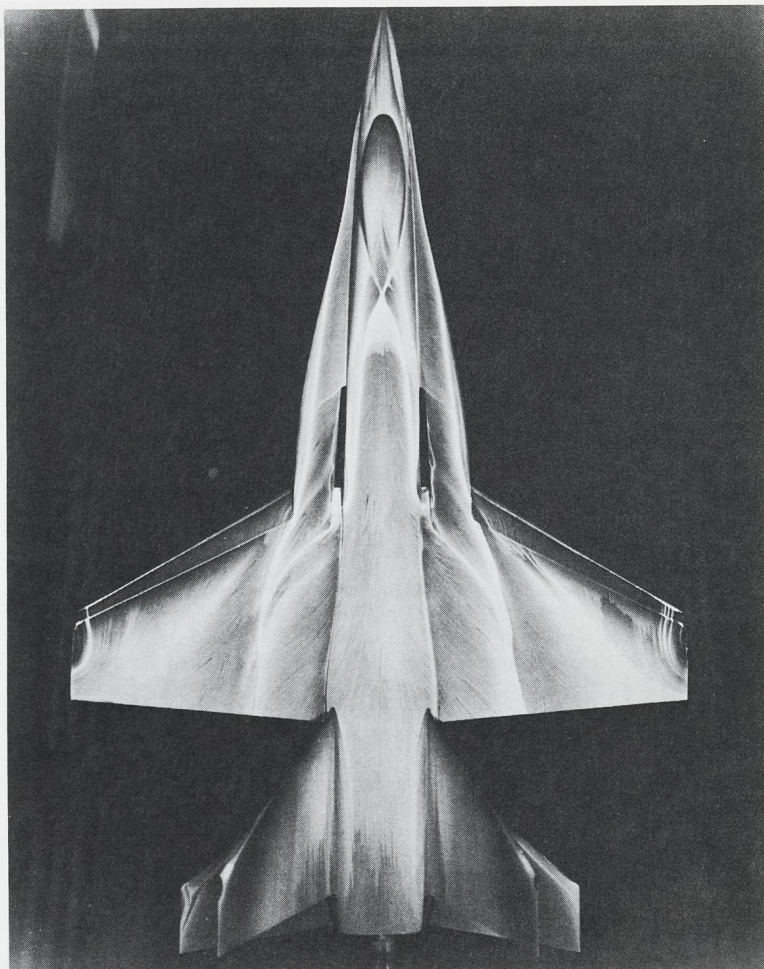
Northrop employees now can enjoy more than 50 of Southern California's sports and entertainment events at half the regular price.

Personnel Activities has made arrangements for personnel to become members of the Two For One Sports Club, Inc. for \$5 which is a savings of \$1 on the regular \$6 price. This family package is valued at over \$250 and will enable you to see the Los Angeles Lakers, Los Angeles Kings, Forum Boxing, Western Harness Racing, Riverside Auto Racing, Glen Campbell Los Angeles Golf Open, Ringling Brothers Circus and many more events.

For further information contact Aircraft Division Personnel Activities, ext. 2486.



BOB PATCHIN, Aircraft Division, left, explains Northrop's work on the Boeing 747, in background, to Mayor and Mrs. Edward McNamara of Livonia, Mich., during the couple's recent visit to California. Guiding Mayor and Mrs. McNamara on their tour of Northrop facilities is Don Foulds, right, vice president, Olson Laboratories. Olson, a Northrop subsidiary, will shortly begin operations in a new vehicle emission test center in Livonia.



ULTRAVIOLET light and a mixture of oil combine to indicate air flow around a wind tunnel model of Northrop's P-530 Cobra air superiority fighter. The Cobra is being developed as a proprietary Northrop effort for use by free world nations.

## IN LEISURE TIME

### Carlson in AFCEA, Scouts

Richard A. Carlson, Facilities and Communications specialist for Northrop Data Processing, has been elected secretary of the Armed Forces Communications and Electronics Association. Mr. Carlson will maintain all records and correspondence for the AFCEA which specializes in communications with the Armed Services.

During his leisure time, scout-

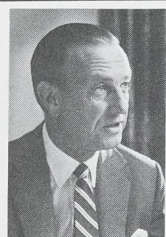
ing is his primary activity; in fact he's been a part of scouting for 39 years. At present he is a member of the Executive Committee for the Orange County Boy Scouts of America.

Mr. Carlson will be one of the camp directors at the National Scout Jamboree West in 1973, at Farragut State Park, Idaho. Forty-two thousand scouts will be on hand for the event.



NEWTON 'BUD' LINDSEY, Quality Assurance technician, Ventura Division, explains destructive testing technique to members of the Pierce College evening class in Quality Engineering. The class is taught by Anthony F. Fortuna, Quality Assurance project leader for Marine Systems at Ventura Division. Mr. Fortuna has been instructing for 25 years, the last 15 on the college level.





## Season's Greetings



### To the Men and Women of Northrop:

The holiday season is traditionally a time for retrospection and resolution, and we at Northrop have much to be thankful for as well as much to look forward to.

We have received worldwide recognition for our creative technology and production competence in fields ranging from aerospace to architecture, from communications to ecology, and from clinical pathology to transportation.

Prospects for peace in the world are greater than ever, and with those prospects come ever increasing opportunities for us to contribute to the solutions of the problems of our economy and our society.

With these accomplishments and goals in mind, I would like to thank each and every one of you for your part in maintaining our long-established Northrop traditions, and to express my optimism for our continued and ever-improving success in the future.

Mrs. Jones and I wish each of you and your loved ones the most joyful holiday season, and the peace, joy and good fortune you so richly deserve.

**Thomas V. Jones**  
President

### To Northrop Ventura Personnel:

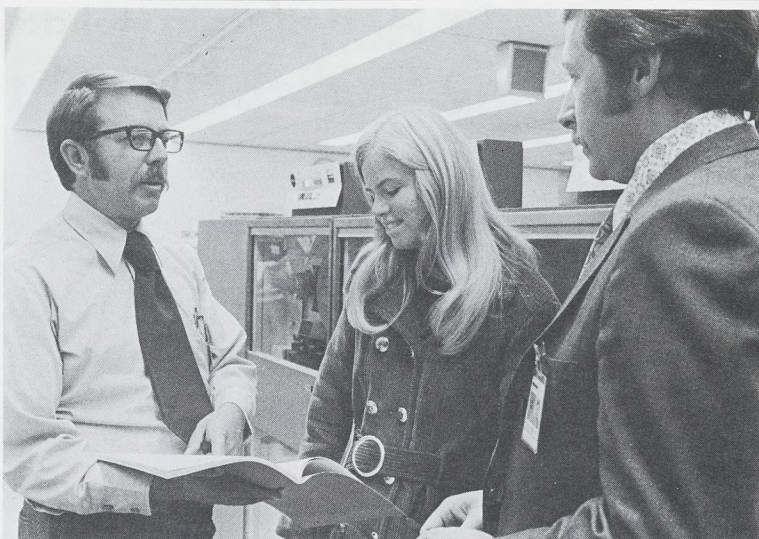
"Merry Christmas to All" has a special meaning to me this year as I extend that greeting to you and your families for the first time. It expresses my gratitude and appreciation for the warm and friendly way in which you have accepted me as a member of the Ventura team.

In the few short months I have been here, you have impressed me with your dedicated performance and hard work in supporting our customers with the best possible products and services.

Working together, I am confident that we can successfully meet the challenges and opportunities of the coming year and realize our goal of helping make our country a secure, peaceful and prosperous nation.

Mrs. Woolwine and I wish you and your families a joyous holiday season and happiness throughout the New Year.

**W. E. Woolwine**  
General Manager



**COMPUTER PROGRAMMING** is explained to Thousand Oaks High School Student Jennie Mortensen by John Johnson, Management Information Systems manager, as Host Paul Wood, Inventory and Assembly Control manager, listens.

## Jennie Mortensen Gets Firsthand Look at Division

Jennie Mortensen, Thousand Oaks High School student, got a behind-the-scenes look at how a large business operates when she was the guest of the Ventura Division on Nov. 15.

Jennie was a participant in the annual Students' Day sponsored by the Conejo Valley Optimist Club, where selected students interface with industry for a half-day. Her host at Northrop was Paul Wood, manager of Inventory and Assembly Control, who conducted her on a tour of the facility and in addition had her sit in on a staff meeting.

Jennie was particularly impressed with the computer area, where she was given a demonstration of how the system worked by John Johnson, manager of Management Information Systems.

Summing up her day at Northrop, Jennie remarked that she learned much of how communications worked within industry.



**Mr. Rowlett**

## Management Club Elects Rowlett President

Besides dining and dancing at their annual Management Club Dinner Dance at the Odyssey Restaurant, Saturday, Dec. 2, club members installed the 1973 officers of the organization.

Installed were: Bob Rowlett, president; Bert Rose, first vice president; Ted Bailey, second vice president; Marian Robinson, secretary; and Chuck Brune, treasurer.

In addition, new directors for 1973 are: Dick Tupper, Executive; Dutch Youngers, Engineering; Ted Szostek, Production Operations; John Wolcott, Quality Assurance; Cal Peterson, Financial Management; Chuck Simmers, Industrial Relations and Administration; Bob Jennings, Product Development; George Bostater, Contract Management; and Jim Karas, Northrop Hueneme.

New president Rowlett was installed by outgoing president, Dave Coe, in an informal ceremony.

## Elliott to Head Eastern Region

A. W. Elliott has been appointed manager of the Eastern Regional office for the Ventura Division, according to George C. Grogan, Jr., vice president, Product Development.

Mr. Elliott succeeds W. Mason Shehan, who has retired from the company and joined the Executive Branch of the State of Maryland.

Mr. Elliott joined Northrop in 1969.



**VENTURA Division General Manager W. E. Woolwine, left, discusses objet d'art in foreground with Dr. Mark Mathews, new president of California Lutheran College. Dr. Mathews was visiting the division for the first time as CLC president. The division has a number of projects and programs under way with the college.**





**BUBBLE-TOPPERS**, Ventura Division's Barbara Richards, left, and Bert Rose, were well-prepared for the first good rains of the season as they huddled under Bert's bubble umbrella. The heavy rains which assured a green Christmas for division residents of the Conejo Valley apparently didn't bother our intrepid twosome!

## BASKETBALL TRIP

The Los Angeles Lakers against the Golden State Warriors is the premier attraction for the first Northrop Ventura Recreation Club basketball trip of the season.

Scheduled for Friday night, Jan. 26, the event will take place in The Forum in Inglewood. Ventura Division Rec Clubbers will travel by bus to the game. The bus will leave Newbury Park and make stops at the Woodland Hills Library on Ventura Boulevard and at Sepulveda Playground on Balboa Boulevard in Van Nuys.

Adult tickets for the game are \$4.25 and for children 14 years old and under the price is \$3.25. This includes transportation.

Tickets can be obtained by contacting Dottie Prychoda or from your Rec Club area representative.

## RECREATION CLUB

Heading up the Northrop Recreation Club at Ventura during 1973 will be Earl Muehlenbach as president. Mr. Muehlenbach was elected along with other new officers this past month. He succeeds Bob Calhoon as president.



Mr. Muehlenbach

Others elected to key positions for 1973 include Harry Caseldine, vice president; Tony

## Golfers in Holiday Try at Brookside

Ventura Division golfers will tee off for their December tournament on Dec. 27 at the Brookside Golf Course in Pasadena. Starting tee-off time is 10 a.m. Brookside is located immediately adjacent to Pasadena's famed Rose Bowl.

Top place in the "A" Flight in the November tournament held at Buenaventura Golf Course went to Bob Jones with a sparkling 65. Norm Curtis was second with 68 and George Avery was third with 69. In "B" Flight, Bill Kangas took top honors with a net 64, followed by Mike Antenucci, 69, and Ken Brubaker, 71.

Clara Curtis took first place in the Ladies' Flight with a net 70. Other winners were: closest to the pin, Mr. Avery, Frank Jonas and Bob Cole. Longest drive, Mark Peterson. Best ball, Mr. Kangas and Andy Tyszkiewicz with a total 58.

At the present time, Dave Logan leads the over-all point standings for the year with 420, followed by Roy Shelley with 370. Zeda Armstrong is first in ladies' point standings with 425, followed by Clara Curtis with 310.

## MERRICK NETS \$75 IN SUGGESTIONS

Bill Merrick will be \$75 richer for Christmas as a result of participating in the "Operation Save-On" Suggestion Awards contest at the Ventura Division.

Walt Claycomb, Suggestion Awards coordinator, said, the awards are the first of a number to be made before Christmas.

Mr. Merrick suggested a method of draining engine oil away from electrical connections during final assembly of the MQM-74A target drone and a way of improving the horizontal stabilizer attachment for the drone.

Other awards for November included \$25 to L.M. Goodwin, Richard Tom and Dick Carlson; \$20 to Jack Landis and \$10 to Nelson Cramer, Frank Crea, Jack Landis, S. E. Sweet, J. C. Carpenter and Dick Carlson.

Piscuskas, treasurer; Betty Reinisch, secretary, and Bruce Knudson, sergeant-at-arms.

The new officers will be installed at a dinner meeting during January, Mr. Calhoon said.



**STRIKINGLY SIMILAR** to Southern California is landscape on Greek island of Crete where division personnel operate NAMFI Target Services Program. Northrop personnel find island a good place to live and work.

## Ralph Friesen Enjoys Work, Living on Island of Crete

Take it from Ralph Friesen, the Greek island of Crete is a great place to live and work — especially if you like good food and wine and interesting places to see and visit.

Ralph, who is manager of the NAMFI Target Services Program for Northrop, now has been on Crete for some 18 months. In November, he was back at the Ventura Division for a short stay.

"Crete has a typical southern Mediterranean climate, similar to Southern California but with a bit more humidity," he said, noting the weather really is ideal most of the year.

Northrop personnel are located at Chania, some 90 miles east of the major town of Heraklion and approximately 100 miles from Athens.

It is at Heraklion where the ancient palace of Knossos is located, Ralph explained. It was the seat of the ancient Minoan civilization which predated Greece from the period from 3000 to 1100 BC.

In addition to Mr. Friesen and his wife, there are four other Northrop families on Crete. A total of 38 Greek civilians are employed by Northrop as part of NAMFI.

"The children of our U.S. employees are all learning Greek, they do quite well. We adults are trying hard to learn the language," he explained.

Mr. Friesen noted life on Crete is much slower than in California, though there are theaters and night clubs, they are Greek.

"The people are very friendly and we live an active social life with frequent parties," he said, explaining there are quite a few

residents from other countries living in the area.

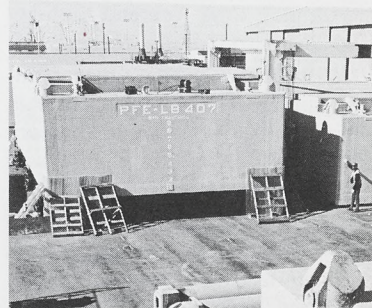
He described Chania as a very old town built on a beautiful harbor and where fishing still is a major industry. The old part of the town is surrounded by walls built centuries ago by the Venetians. Many of the town's buildings were built by the Romans.

In the town's center is the shopping area, called the Agoura.

"One sees people getting about by horse cart and by walking," he said, adding that auto drivers on Crete are like those in other parts of Europe, that is, you take your life in your hands with them.

"We have quite a few visitors from the United States as well as from other countries, as Crete is a favorite vacation area," Mr. Friesen said.

He noted Northrop provides the targets for the NATO Missile Firing Installation and being used are MQM-74A's. The division has a contract which runs to June 1974.



**FIBERGLASS LASH** Lighters await final delivery to Pacific Far East Lines at the Port Hueneme manufacturing plant. A PFE LASH ship is expected to pick up the lighters within the next few weeks. It will be the first time the lighters have gone aboard the ships.



## Ehret Finds Sketching Nursery Rhymes Relaxing

Wendell Ehret, Aircraft Division, has worked for Northrop for over 23 years, most of this time at metal bonding. During coffee breaks he is likely to sit down with a pencil to create rhymes and sketch pictures.

Most of his sketch work is of little children and a variety of animals that float around in his imagination. Children, pigs, wolves, lions and monkeys, frogs and birds and insects, they all relate with his clever verses and can now be found in a book of nursery rhymes, *RHYME TIME*, recently published by Vantage Press, and illustrated in color by Wendell. "Most of the creations

in the book don't really have a moral or convey any sort of a lesson, as they are strictly fun, pure and enjoyable," he said.

Wendell never went to an art school, but learned to draw through a correspondence course. He worked for a while in a movie cartoon studio prior to World War II and since then many of his drawings have been published.



**WENDELL EHRET** finds relaxation in creating rhymes and sketching pictures during coffee breaks.

## SAFETY REMINDERS FOR THE HOLIDAY

One of the most eagerly awaited times of the year — Northrop's traditional long yearend holiday — is just around the corner.

With these happy times coming up, there are always certain precautions that should be observed to make this a safe and enjoyable period of time.

All employees are reminded to make a check of their work area prior to departing for the holiday. Christmas decorations should be removed from the premises prior to the close of shift on Dec. 22. Typewriters, coffee pots, adding machines and other electrical appliances and machinery should be unplugged. Files, cabinets and desks should be locked.

## CHRISTMAS EDITION COVER

The 1972 Christmas edition cover of the Northrop News shows, through the window, the Boy Scout Troop 262 Christmas tree lot with Raymond and Glen Van Heel, and Loretta and Danny Williams.

Troop 262's Christmas tree sale is sponsored by the Northrop Recreation Club, Aircraft Division.

Artwork was done by Thad Roark, and the photography by Dave Saldana.

## TOASTMASTERS

Northrop Toastmasters Club 212 will celebrate its 20th anniversary Jan. 13, 1973. All former Toastmasters are urged to contact Hank Greenberger, Electronics Division, ext. 647 or Charlie Ferraro, Aircraft Division, ext. 5107.

## Olympiad a Memorable Occasion For Roger Vogel

Roger Vogel will always remember the past summer as the most memorable of his life. At 19 he attended the 20th Olympiad at Munich as the official photographer for the famous Puma Shoe Company of West Germany.

Roger is the son of Electronics Division's Al Vogel, who is the chief of Diagnostic and Safety Systems.

Taking a page from his father's book on resourcefulness, Roger travelled to Eugene, Ore., last spring to attend the U. S. Olympic trials. At Eugene he convinced Armin Dassler, president of Puma Shoe, that Roger Vogel was the photographer for Puma. As a result, Puma paid Roger to attend



**NUMBER ONE.** Mike Evans, Aircraft Division, with his car and first place trophy he won at the Long Beach Custom Car and Motorcycle Show in October. Photo by Thurman Sharp.

## IN SPORTS CAR SHOW

## Evans Takes First Place

Mike Evans, Aircraft Division, captured a first place trophy for best all-around American sports car at the Long Beach Custom Car and Motorcycle Show held Sept. 29 through Oct. 1. Mike personally did the customizing and painting on his 1964 Corvette Stingray in preparation for the competition.

He used acrylic lacquer paint with a pearl white base, airbrushed orange fans, top coated with candy apple red and blue murano. The hood scoop is tiger-striped with candy gold, yellow, orange, and candy red gold. Three months of preparation and labor went into his car before the paint was even applied. He then sprayed

3½ gallons of primer on the car, hand-sanded the entire body, and used five gallons of paint to come up with his prize winning creation.

Mike said, "there's a lot to know about the different types of paint and their application, and only through hard work and experience can someone put together something really nice." He has a variety of spray guns, but his favorite is the airbrush which he used to do most of the detail and ornamental work.

One of Mike's custom paint jobs was on a motorcycle that broke the world speed record in its class at the Bonneville Salt Flats during August 1972.

the Olympics and take photos of athletes wearing Puma shoes.

Some of his outstanding photos showed Dwight Stones, U. S. high jump bronze medal winner, Randy Williams, U. S. long jump gold medal champion, and Bob Seagren, U. S. pole vault silver medal winner, all wearing Puma shoes. Another exciting shot showed four Puma-clad U. S. runners burning up the track.

But the most exciting photo of all for Roger was the one he took of John Akii-Bua, of Uganda, setting a new world record for the 400 meter intermediate hurdles. Roger shot that photo from the twenty-fifth row of the stadium, using a 300-millimeter lens on his Nikon F-2 motor

driven camera, and the Puma "curl" on Akii-Bua's shoes came through bright and sharp.

When he isn't taking pictures or preparing for the 1976 Olympics, Roger attends California State University at Northridge, where he is a sophomore.



**ROGER Vogel** with father, Al Vogel.



# Classified

A free service for Northrop personnel only. The right to edit or omit ads is reserved. Ads limited to one per family. Deadline is noon the second Wednesday of each month.

## Automobiles For Sale

**Dodge**, 1970 Challenger, AM-FM stereo, p/s, p/b, \$2,000. 213-675-7835.

**Ford**, 1964 Fairlane 500, auto., V-8, r/h, 70,000 mi., \$250. 213-835-2328.

**Hornet**, 1971, 9,000 mi., 232 c.i.d., 6-cyl., 3-spd., radio, \$1,750. 805-482-6945.

**Chevrolet**, 1965 Malibu, p/s, p/b, a/c, r/h, \$475. 213-674-1367.

**Dodge**, 1968 Polara, a/c, p/s, p/b, auto. trans., 74,000 mi., bids close Dec. 21, min. bid \$800. Credit Union, ext. 1117.

**Chevrolet**, 1967 Supersport 396, \$1,300. 714-839-6029.

**Renault**, 1959, \$75. 213-323-7171.

**Chevrolet**, 1964 Impala, 4-dr. h/top, a/c, auto., p/s, p/b, \$795. 213-644-6658.

**Falcon**, 1965, 2-dr. stick, new clutch, trans. & brakes, \$300. 213-454-1963.

**Camaro S.S. 350**, 1969, 4-spd., a/c, \$2,200. 213-379-8248.

**VW Camper**, 1968, w/pop-top, a/c, AM-FM radio stereo, many extras, \$2,895. 213-375-2091, 213-375-9397.

**Pickup**, 1963 GMC, ¾-ton, 8' Aero Flight camper, full cabover, \$2,000. 213-370-6896.

**Oldsmobile 88**, 1962, \$175. 213-372-6916.

**Midjet MG**, 1968, \$800. 213-672-8490.

**Pickup**, 1971 Chev. ½-ton, 8' wood bed, V-8, 10,000 mi., \$2,600. 714-551-3844.

**Chevelle**, 1967 Malibu, 2-dr. h/top, 283 eng., auto. trans., p/s, \$595. 213-248-1397.

**Opel G.T.**, 1970, 4-spd., \$1,800. 213-379-8796.

**Dodge**, 1967 Coronet 500, 2-dr. h/top, auto. trans., p/s, a/c, r/h, 383 cu. in. V-8 eng., \$1,050. 805-643-6955.

**Station Wagon**, 1969 Pontiac, air, power, 3-seat, many extras, \$2,400. 213-375-8536.

**Truck**, 1965 ¾-ton Chev. 283 V-8, hvy. duty equipped, 2 extra gas tanks, \$995. 213-324-7637.

**Station Wagon**, 1964 Chevelle, 3-spd. manual trans., 283 eng., \$150. 213-372-5508.

**Pickup**, 1967 ½-ton Chev., V-8, big tires, w/Weekender camper, sleeps 6, \$2,600. 714-546-8688.

**Porsche**, 1964, rebilt. trans., eng., \$2,800. 213-322-7376.

**Mustang**, 1969 Mach I, 428 cu. in., C-6 auto., \$1,400. 213-862-4406.

**T-Bird**, 1960, rebilt. eng., 4 new recaps, \$350. 213-375-4786.

**Mustang**, 1967, V-8, auto. trans., AM-FM, 60,000 mi., \$490. 213-534-2487.

**Chevrolet**, 1963 Impala, 4-dr., auto., p/s, p/b, \$300. 213-675-7915.

**Chrysler**, 1968 300, 2-dr., auto. trans., p/s, p/b, a/c, \$1,750. 213-676-9953.

**Cadillac**, 1960 Cpe. de Ville, full power, w/removable air cond. unit, use in other autos, \$235. 213-676-1580.

**Chevrolet**, 1964 Malibu SS, Hurst, hi-perf. 327, new rebilt., \$800. 213-324-5719.

**Olds F-85**, 1966, auto., a/c, stereo, extras, \$500. 714-644-1195.

**Ford**, 1971 LTD Brougham, p/s, p/b, AM-FM stereo radio, a/c, \$3,000. 213-926-7624.

**Mercury Comet**, 1963, 6-cyl., 4-dr., r/h, 3-spd. stick, \$300. 213-329-3900.

**Pickup**, 1969 Chevrolet, ½-ton, custom cab, fact. air, p/s, 396 eng., Gem top, \$2,375. 213-671-6345.

**Continental**, 1964 4-dr. sedan, all leather int., fully equipped, \$650. 213-882-0761.

**Ford**, 1965 Country Squire, 6-pass. station wagon, r/h, p/s, p/b, roof rack, \$695. 213-375-5838.

**Chevrolet**, 1965 Impala, 396, 4-dr., p/s, p/b, a/c, \$450. 714-522-2740.

**Pontiac**, 1968 Firebird, full power, a/c, AM-FM radio, \$1,000. 213-360-1377.

## Miscellaneous For Sale

**Ventilator Fan**, 243 s.p. aerofan, wall-type, in orig. carton, \$20. 213-379-4517.

**Wheels**, 4, Austin Healey, 60 spokes, \$20 ea. 805-495-3163.

**Mobile Home**, 12x60, in 5-Star Park, carport, 8'x36' enc. patio, 2-bdrm. & den, 1½ baths, \$5,400. 213-532-1344.

**Organ Discs**, Optigan, 8, \$20. 213-327-4585.

## Miscellaneous For Sale

**Chord Organ**, Magnus elec., \$20. 213-675-7965.

**Guitar**, \$25. 213-377-6648.

**Cemetery Lots**, 2, in Rose Hills Memorial Pk., Whittier, \$500. 213-377-6460.

**Bicycle**, Schwinn Apple Crate, \$65. 213-376-3569.

**Adding Machine**, Royal, Office Master elec., 10-key, never used, \$75. 213-278-7550.

**TV**, 24" color Magnavox, console-type, \$210. 213-939-8053.

**Target Rifle**, Remington Rangemaster Mod. 37, .22 cal., Redfield scope, case, access., \$130. 213-631-6480.

**Typewriter**, Underwood std., \$40. 213-676-4464.

**Cuckoo Clock**, musical, German import in orig. carton, \$50. 213-671-0756.

**Utility Trailer**, suitable for 3 motorcycles, \$120. 213-830-5225.

**Jacuzzi**, for bathtub, Everest & Jennings, \$175. 213-375-2127.

**Bar**, custom, 3 yrs. old, 4 padded stools, formica maple, 2 shelves, \$200. 213-542-7197.

**Dog**, basset hound, AKC reg., 2 yr. old male, \$25. 213-325-5859.

**Utility Trailer**, 14' long, 1947 mod., \$75. 213-679-4144.

**Engine**, 348, complete, incl. tri-power set up, \$100. 213-644-5926.

**Golf Clubs**, 1972 Titlist, 1, 3, 4 & 5 woods, 2-9 irons, pitching wedge, \$325. 714-879-5356.

**TV**, walnut cabinet, remote control, b/w, 20", \$75. 213-324-4475.

**Washer & dryer**, \$75 or sell sep. 213-676-3050.

**Engine**, 1966 Corvair Spyder, 19,000 mi., all access., \$275. 213-378-4991.

**Chord Organ**, elec. Magnus, table mod., \$10. 213-675-6397.

**Surfboard**, Greg Noll, 6'11", \$60. 213-371-3769.

**AM-FM-MFX**, Emerson, w/2 8 ohm spkrs. & Soundesign 8-track, w/3 unopened tapes, \$100. 213-374-7055.

**Receiver**, 75A-2 Collins, \$100. 714-835-1124.

**Guitar**, Gibson, EB-O bass, case, \$190. 213-824-2352.

**Motorcycle**, 1970 Kawasaki 250 c.c., street legal, many extras, \$425. 213-645-4697.

**Surfboard**, 6'8", roundtail, \$50. 213-823-1788.

**Transmission**, auto., fits Falcon & Comet, \$35. 213-328-3306.

**Radio**, Pace 2-way, 23-channel, almost new, \$80. 213-676-8109.

**Sweater**, black fur, \$30. 213-375-5237.

**Shoe Rink Roller Skates**, ladies, white, size 8, \$6.50. 213-545-1631.

**Motorcycle**, 1971 Norton 750 cc, less than 3,000 mi., \$1,100. 213-376-9047.

**Dressers**, 2 white provincial, \$75. 213-326-3136.

**Weightlifting Set**, Paramount, press bench, bar bell, 4 dumb bells, assorted wts., \$50. 213-431-9968.

**Motorcycle**, 1964 Triumph 500 cc chopper, \$600. 213-860-4221.

**Crib**, white, w/mattress, \$25. 213-926-7474.

**Movie Camera**, Kodak elec. 8, battery powrd., auto. exp., \$49. 714-892-5801.

**Bicycle**, girl's Schwinn Sting Ray, coaster brake, \$20. 213-376-2190.

**Oven**, Roper, dble., self-cleaning, \$250. 213-889-0191.

**Guitar**, elec. Fender Mustang, case, \$95. 213-833-5755.

**Baby Items**, 5 pieces, \$25. 213-780-7476.

**Dressing Table**, baby's, \$17. 213-675-6020.

**Motorcycle**, 1970 Yamaha, 250 twin, 3,600 mi., street mod., \$350. 213-644-3874.

**Console**, Philco Stereono, AM-FM, record player, 2 yrs. old, \$100. 213-547-1328.

**Movie Camera**, Bell & Howell, reg. 8, projector, screen & editor, \$75 or sell sep. 213-679-6982.

**Rocker**, swivel, green velvet, \$90. 213-644-4656.

**Tape Recorder**, Sony, video, \$400. 213-329-1664.

**Cocktail Ring**, rubies and turquoise, 14K gold, custom designed, \$100. 213-545-2577.

**Movie Projector**, 8mm Revere, \$20. 714-523-5315.

**Stroller**, other baby items, \$.50-\$10. 213-329-6091.

**Saxophone**, Noblet tenor, \$100. 213-423-1363.

## Miscellaneous For Sale

**Bicycle**, English 10-spd., \$60. 213-638-4954.

**Desk**, metal, youth's, w/typewriter table, \$10. 213-675-4239.

**Golf Clubs**, 3 woods, 9 irons, \$55. 213-372-1778.

**Living Room Set**, 3-pc., naugahyde, \$30. 213-370-5031.

**Sailboat**, 1970 Venture 17, fully equipped, trailer & outbd., \$1,850. 213-389-2079.

**Charbroiler**, Lazyman, portable stand, \$30. 213-644-6384.

**Motorcycle**, Honda 70, 4-spd., Moto-Cross bars, \$240. 714-832-9054.

**Surfboard**, 6'2", 1972 mod., \$70. 714-892-1714.

**Dehumidifier**, Westinghouse, \$65. 213-545-7149.

**Boat**, 12' fiberglass outbd., 20 h.p. elec. Chrysler, less than 50 hrs., trlr., \$1,195. 213-927-6140.

**Desks**, 2 child's chair, & hi-chair, \$14.50. 213-376-4831.

**Golf Irons**, 1970, 1st flite 2-W, D2, med. alum. shafts, \$50. 213-374-1889.

**Sailboat**, 1969 14' Banshee, new sail, \$450. 213-429-7879.

**Boston Whaler**, 55, 17', 4-cycle eng. Bearcat, trailer American, \$2,200. 213-370-3886.

**Camper Trailer**, 1970, Nimrod deluxe, fully equipped, sleeps 8, \$1,700. 213-374-6445.

**Piano**, upright, std. brand, modern walnut, \$165. 213-696-7529.

**Sofa**, convt. dble. bed, solid-steel frame, \$50. 213-641-8355.

**Table**, white wrought iron, round, glass top, 42" dia., 4 chairs, \$69. 213-675-2387.

**Motorcycle**, 1971 Honda, CB350, 7,000 mi., \$450. 213-674-4890.

**End Tables**, 2 matching French provincial, \$2 ea. 213-534-2951.

**Motorcycle**, Honda 450 street, Fairing, 16" rear whl., \$875. 213-370-2462.

**Turntable**, Pioneer Pla35, & Empire 999 SE/X cartridge, \$85. 213-675-6128.

**Motorcycle**, 1972 Steens X100, Hodaka engine, \$275. 213-834-9205.

**Dune Buggy Parts**, to construct a Renault pwr. dune buggy, incl. eng., \$70. 213-821-9110.

**Dressing Table**, antique w/triple mirror, 2 dwrs., mahogany finish, matching small cane seated chair, many other access., \$115. 213-474-5726.

**Bar**, 2 stools, green naug., formica top, \$30. 213-644-2989.

**Airplane**, Cessna 150 Commuter, 1970 mod., elec. T&B, remote compass, heated pitot, 300 com nav., no dn., take over pymts., approx. \$6,750. 805-947-7020, 805-947-6412.

**Cocktail Dresses**, 2, knee length, size 18½ tall, \$10 ea. 213-545-7952.

**Poker Table**, w/masonite cover, \$17.50. 213-675-3957.

**Ski Boat**, 16' Starcraft Jupiter runabout, 55 h.p. Chrysler outbd., trailer, \$1,500. 213-375-3977.

**Ditto Machine**, Heyer mod. 70 Mark 3, \$50. 213-326-0279.

**CB Radio**, base or mobile 23 ch., many extras, \$175. 213-676-5787.

**Tent Trailer**, sleeps 6, ice box, sink & storage, \$375. 213-371-2783.

**Surfboard**, 9', \$40. 213-329-1861.

**Camera**, Pentax Spotmatic outfit, 2 bodies, 28 f2.8, 35 f3.5, 50 f1.4, 105 f2.8, 200 f4 lenses, cases, many access., \$450. 213-541-2071.

**Adding Machine**, Burroughs elec., \$48. 213-675-4256.

**Travel Trailer**, 1959, 16' Shasta, elec. brakes, \$400. 213-326-5566.

**Camera**, Minox B, w/flash, \$85. 213-378-1432.

**Telescope**, Sears Varipower, 60 MM, 15/30/45/60 pwr. settings, tripod, \$25. 213-372-0540.

**Honda Scout**, 1961, rebilt. eng., equipped for street, \$65. 213-675-2159.

**Washer**, Maytag w/load levels & fab. contrls, \$75. 213-679-6672.

**Dining Table**, w/2 boards, 4 side & arm chairs, burlled birched, Med. hand-carved, \$85. 213-294-4941.

**Trailer**, furn., bath, 2-bdrm., dps., cpts., awning cover porch & stor. shed, \$3,900. 213-375-0017.

**Pups**, Labrador Retriever, blacks & yellows, AKC reg., \$90-\$125. 213-377-6658.

**Radio**, Hallicrafters S240, AM/FM, short wave, all solid state, \$40. 213-599-7009.

## Miscellaneous For Sale

**Coins**, 55 rolls of circulated Lincoln cents, in plastic tubes & storage boxes, 1936-P-D-S to 1964-P, \$69.65. Box 1201.

**Tape Recorder**, TC-500 Sony, incl. 2 mikes, 20 W. sound system, \$200. 213-265-2935.

**Motorcycle**, 1970 Honda Trail 90, street, \$275. 213-376-4422.

**Sofa**, custom 2-pc., 8½', \$50. 213-645-7972.

**Water Pipe**, 12 pcs. ¾" galv., 20' lg., \$3 pc. 714-774-4458.

**Piano**, remodeled upright, light wood grain, \$150. 213-941-3804.

## Wanted to Buy

**Fairing**, brown, metal-flake, w/windshield, in good condition for Honda CB500K1. 714-774-4187.

**Trumpet**, reasonably priced. 714-897-2007.

**Lathe**, 5" Atlas or similar. 213-545-5960.

**Utility Trailer**, box-type, metal or wood, 5'x8' or larger, single or tandem axle. 213-633-8682.

**Tool Box**, roll-a-way, prefer 8-dwr. model, Sears or equivalent. 213-374-2915.

**Northrop Radio Club** wishes to buy antenna rotator AR-33, AR-44, or HAM-M, in working order or we can repair. 213-374-8289.

**House**, 2-bdrm., Torrance, Redondo, Welteria area. 213-377-4173.

## Free (To Be Given Away)

**Dog**, small female, 1 yr. old. 213-676-0516.

## Trade

**Tires**, 5 F78-14 blackwall, used, trade for 3 books of Blue Chip stamps per tire. 213-597-5232.

**TV**, Motorola 23" color, console, 2 yrs. old, trade for TV of like value in RCA portable 21" color w/stand. 714-828-2857.

## Personals

**Ride Wanted**, 7 a.m.-3:42 p.m., Market & Regent, Inglewood to Plant 3, Aircraft ext. 1686.

**Ride Pool** partners wanted, 8 a.m.-4:42 p.m., Orange County to Hawthorne, NRTC ext. 4591, 714-630-1629.

**My sincere thanks & appreciation** to all my Northrop friends & co-workers for the flowers & expressions of sympathy on the passing away of my father. FLORENCE R. PETERSEN.

**We wish to extend our deep appreciation** for the kindness extended to us during the recent passing of Reginald I. "Bob" Hampton, our beloved husband & father. IDA L. & REGALEEN HAMPTON.

**The families of Betty Wooldridge**, mother & sister, Rose Roeser, wish to convey their appreciation & gratitude for the flowers sent by Northrop & donation made by Product Support to the Cancer Foundation in behalf of their father & husband.

**I wish to express my most sincere thanks & appreciation** for the lovely planter & kind expressions of sympathy on the recent death of my brother. NANCY MYHRE.

**Our sincere thanks** to all of Floyd's friends for the many cards, flowers & kind expressions of sympathy at his passing. MRS. FLOYD HEAGLE & FAMILY.

**We wish to extend our appreciation** for the help & comfort extended by our many friends at Northrop during our recent loss. THE OSBORN FAMILY.

**Person** or persons witnessing auto accident Oct. 30, 7:40 a.m. at Prairie & Redondo Beach Blvd., please call 213-542-4091.

**Car Pool**, 7:30 a.m.-4:12 p.m., San Bernardino Fwy. & Garey Ave., Pomona, to Plant One, make pickups at Covina, Puente, Glendora or Brea, Aircraft Div. ext. 1293, 714-593-4811.

## For Sale or Trade

**Vega**, 1971, G.T., fully equipped, stereo tape, tent, \$1,995, or trade for Honda & cash. 213-291-6075.

# NORTHROP NEWS

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**DISCUSSING** A special toll free health information service telephone line to serve the Centinela Valley are, from left, George L. Matuskey, administrative assistant, Aircraft Division Medical Department; Bea Weiskopf, director, Social Services, Daniel Freeman Memorial Hospital; Supervisor Kenneth Hahn; and Sister Mary Ester, administrator, Daniel Freeman Memorial Hospital. Health information and local referrals are now available to residents of Westchester, Inglewood, East Inglewood, Lennox, El Segundo, Hawthorne, Lawndale, and Gardena, through a new toll free number, 673-1592, on a 24-hour basis. Northrop is assisting the project by buying the paper and printing 500,000 information flyers.

## Worms Tell Researchers About Space Flight Effects

Tiny worms that normally live in the intestinal tract of mice are telling scientists something about the possible effects of long space flights, according to a report made at NASA's Manned Spacecraft Center, Houston, by Richard A. Long, a Northrop Services Inc. research assistant.

The worms—called nematodes—were placed in a special biological container aboard the Apollo 16 spacecraft last April, Mr. Long said.

Study of the worm larvae following the flight showed a serious reproduction deficiency.

"Future flights involving man in space may reveal that this deficiency is manifest in other, more advanced animals," Mr. Long said.

For the experiment the nematode larvae were divided into five groups. Three of the groups were carried on the spacecraft and two were left behind to serve as ground controls.

Two of the groups were exposed to ultraviolet radiation from the sun when Astronaut Thomas K. Mattingly made a space walk. The third group was not exposed. Nevertheless, all three groups subsequently exhibited reproduction deficiencies.

Mr. Long said he had no idea

what there is in outer space that could cause this effect. Nor is he suggesting at present that there is any link between man and nematodes.

However, he suggested that the reproductive functions of man be tested for long space flights, perhaps by flying sperm specimens and then testing the results of such a trip on their viability and other biological factors.

Such information is of great importance as future Skylab and manned flights to Mars keep men in space for increasingly long periods of time.

## DIVIDEND DECLARED

The board of directors of Northrop has declared a quarterly dividend of 25 cents per share on Northrop common stock, payable Dec. 23 to common stock of record Dec. 4.

The board also declared a quarterly dividend of 36¼ cents per share on Northrop \$1.45 cumulative preferred stock, payable Jan. 6, 1973 to preferred stock of record Dec. 20.

Northrop is now listed as a diversified advanced-technology company which operates primarily in the fields of aircraft, communications, electronics, construction and systems management.

## Northrop Purchases Firm in New Jersey

Northrop Corporation has acquired for an undisclosed cash sum a 23 per cent interest in General Energy Resources, Inc., of Burlington, N.J.

General Energy is a leading mechanical construction firm specializing in the fabrication and installation of piping for nuclear and conventional power plants, water pollution control systems, desalinization and water treatment plants, and petrochemical processing and manufacturing fa-

cilities. General Energy's management estimates that sales for 1972 will be approximately \$23 million. Its backlog at Sept. 20, 1972, was \$48 million. Northrop lists annual sales of more than \$600 million.

Aside from its merit as an investment, the purchase will give Northrop an understanding of the technology of two important new fields: nuclear power plants and water pollution abatement facilities, which may offer new opportunities for the application of aerospace technology.

The purchase was made from William J. Doyle, owner and chief executive of General Energy Resources. To assure close coordination, Mr. Doyle has been named a Corporate vice president of Northrop.

## NAL Research Facility Praises George Fuller Co.

The George A. Fuller Company, a New York construction subsidiary of Northrop, was paid tribute by the American Society of Civil Engineers for providing architectural, engineering and construction management services for the construction of a 200 BeV accelerator.

A project of the National Accelerator Laboratory (NAL) in Illinois, the world's largest proton accelerator is being built to study nuclear and subnuclear particles.

Dr. Edwin L. Goldwasser, deputy director of the NAL research facility, paid tribute to the Fuller Company and three other joint venture firms. He said, "We have insisted that our structures perform better than their specifications and that they be esthetically pleasing. All of this they have accomplished and always with understanding and good humor," he added.

Master planning for the 6,800-acre site required considerations similar to urban development—land use, impact on surrounding communities, road layout, personnel movement through the experimental facilities, and utility distribution.

## COMMUNITY INVOLVEMENT

The last issue of the Northrop News included a questionnaire on individual community involvement. Results of the survey indicate that Northrop employees spend an average of 10 hours per week each in community service activities. With a nominal work force of 15,000 people, this equals over seven million hours per year devoted by Northrop employees to their communities!

## MEDALS ON SALE

The NRC Coin Club has announced the striking of a Commemorative Medal to celebrate the Club's Silver Anniversary this year.

Starting in 1947 as the joint Coin and Stamp Club, it is one of the oldest consecutive activities of the NRC.

The medals are at all Personnel Activities offices, according to Club Commissioners Jack Wilson, Aircraft Division, and Dick Reamer, Electronics Division.



NRC COIN Club's commemorative medal.















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